JULY, 1958

THE Lumberman

LUMBER PLYWOOD BOARD — WOOD MANUFACTURING

ANNUAL BOARD REVIEW

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1958 EDITION

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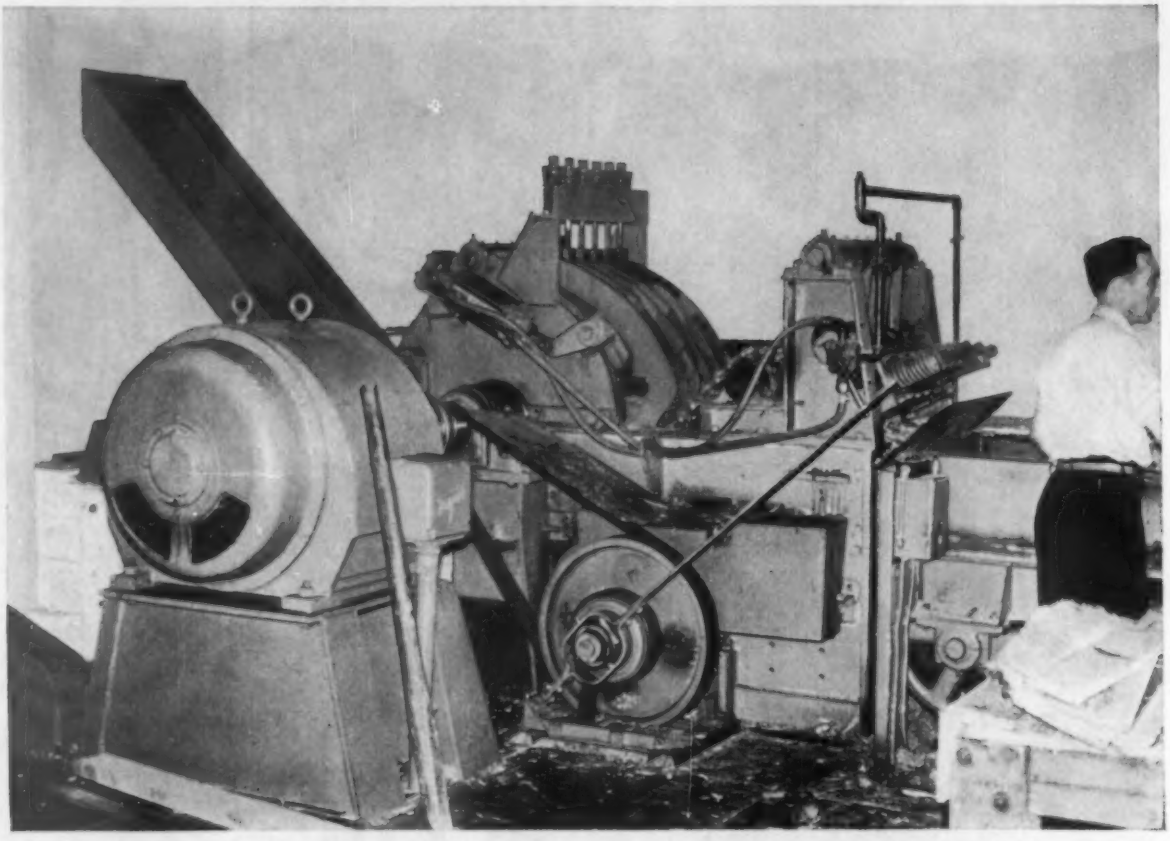

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JULY, 1958

THE Lumberman

LUMBER PLYWOOD BOARD WOOD MANUFACTURING

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731 Southwest Oak Street
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SMOOTH HANDLING ALL THE WAY!

...ON CRAWLERS
...ON RUBBER

When you are piling to a wall of pulp like this a jumpy boom caused by the jerking and grabbing of ordinary swing clutches can mean a lot of delay in unloading a train or feeding a belt.

You have never been on a smooth working crane until you've been on a Northwest. The Northwest "Feather-Touch" Clutch Control brings power operation to the main drum clutches and at the same time preserves the *feel of the load* for the operator. Northwest Swing Clutches are Uniform Pressure Swing Clutches that give even pressure over the entire area of the clutch. This means smooth swing and perfect control of the machine and load. Smoother boom handling is augmented by the wide selection of Northwest boom hoist equipment—the standard Worm Boom Hoist, the Northwest High-Speed Boom Hoist (independent of all other operations with power controlled lowering). The third drum that permits 3 load lines with either of the above boom hoists. Here you can get just the right equipment for handling any combination of problems.

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A Trade-Name for WEARABILITY—
Resists Abrasion—Resists Heat
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in Every Woodworking Process

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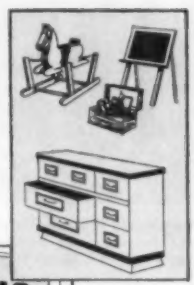


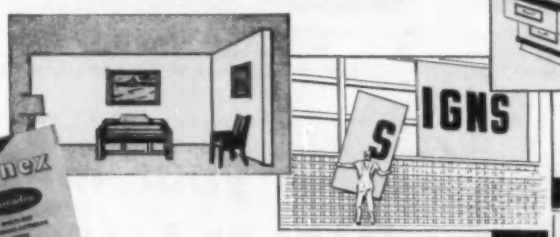
Lebanite Hardboard Face

Jointed Veneer Plywood Core

Lebanite Hardboard Back

Shelving, cabinets, store fixtures.

Home interiors—component parts for furniture.



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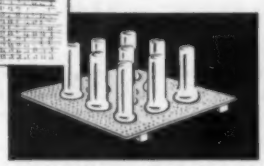
WRITE for your copy of Lebanex folder describing its properties and uses.



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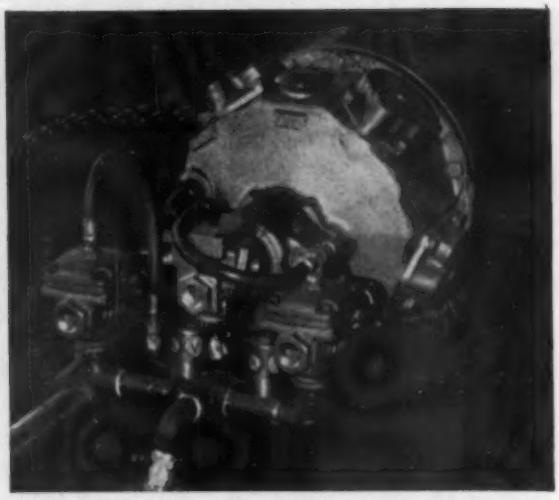
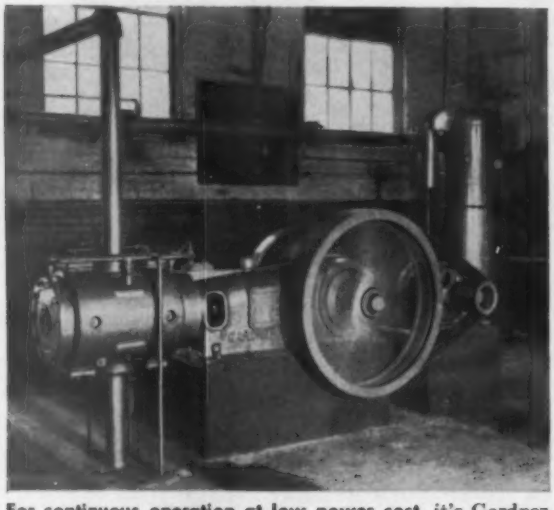


Safe, dependable power for a wide variety of applications from Gardner-Denver air motors. Five-cylinder radial design. Choice of models that range from 3 to 15 horsepower.



For continuous operation at low power cost, it's Gardner-Denver RX compressors. Parts easy to inspect and adjust. Sizes: 100 to 1410 cfm. for pressures from 15 to 150 psi.

Lift 50- to 4000-pound loads easily with Gardner-Denver air hoists. They provide a swift, steady lift with gentle starts and safe, accurate stops, for operations like loading logs.

Harness air power to your mill with a Gardner-Denver team

Put air to work in your mill and you have power exactly where you need it—when you need it. Here's versatile power that's convenient, economical, easily controlled and—above all—safe.

Any one or any combination of the Gardner-Denver air team shown above helps harness air power to exactly fit your needs. For complete information, write for descriptive bulletins.

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IN GENERAL INDUSTRY, CONSTRUCTION, PETROLEUM AND MINING

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significant industry news

General Outlook . . .

NLMA WOOD PROMOTION DUE LATE IN 1958 . . . The $1 million a year or more nationwide wood promotion campaign of the National Lumber Manufacturers Association has been approved by NLMA's federated association and will be launched late in 1958. The program was approved by representatives of NLMA's federated associations at a late May meeting in Santa Barbara, Calif. Cost will be financed by dues payment of 10 cents per thousand board feet of lumber shipped by members of federated associations. Advertising in the program "will not deal with regional wood varieties but will be an umbrella-type effort enphasizing new potentials of wood as a basic material."

CONSTRUCTION SHOWS GAIN . . . The April construction contract total in the United States was $2.9 billion, an increase of 4% over April of 1957. This is the first break in a series of declines which began last November, F. W. Dodge Corporation reports. Gains were registered in practically all categories, including residential building.

UPTURN SEEN IN HOME BUILDING . . . A poll of the home building industry by the National Association of Home Builders indicates more than a million units this year, and more homes with an under $15,000 price tag. Changes in mortgage money practices prompt builders to believe that the market is better now than a year ago and will improve as it goes along.

BOOST IN FIR PLYWOOD PRICE . . . Four major plywood producers have upped the price on ¼-inch AD index grade plywood from $64 to $68. They are Georgia-Pacific Corp., U. S. Plywood Corp., Simpson Logging Co. and Evans Products Co. Other major producers are expected to follow. The upward move follows new strength in the market brought about by an improved construction picture, particularly in home building.

SAF PLANS EDUCATION STUDY . . . A nationwide study of education in forestry and related fields of natural resources management was started in June by the Society of American Foresters. Harold G. Wilm, Syracuse, N. Y., will direct the study, which is expected to continue over a period of two years. Principal object is to set goals for professional and technical education in forestry and related fields.

BRAZIL EYES U. S., EUROPEAN MARKETS . . . Brazil has about 100 million feet of pine which it would like to export to the United States or Europe. A special mission is being sent to the U. S. to seek out a market. Argentina, which last year imported about 400 million feet of Brazilian pine, expects to take only about 300 million this year. European markets for Brazilian pine have also declined.

UNION AUTHORIZES STRIKE . . . Members of the Western Council of Lumber and Sawmill Workers have by a 3 to 1 margin voted to empower negotiators to call a strike to enforce current wage demands. This contrasts with the move of the International Woodworkers of America which settled with the industry for a one-year contract extension with no wage increase, but with an interim opening provision in the fall. Aim of the LSWU is a long-range five-point 31-cent package program including wages, health and welfare, holidays, improved vacations and pensions.

FIRST TREE LENGTH BARKING IN SOUTH . . . St. Regis Paper Co. has started debarking and processing tree-length logs in the forest instead of debarking and chipping short lengths at the paper mill. The operation in the Sawannee forest is the first such operation in the south. The firm hopes to reduce the cost of wood fibre for kraft paper manufacture. The installation is designed to produce the equivalent of 320 cords of wood in a 16-hour working day.

FIRE THREAT SLOWS B. C. ACTIVITY...Fire hazard slowed logging operations in coastal and northern Interior British Columbia late in May. Lightning started fires in the interior, and numerous coastal loggers halted operations due to the extreme fire hazard. British Columbia has suffered a long hot and dry spell.

MANDO ADDS TO PLANTINGS . . . Minnesota and Ontario Paper Co. has added 650,000 seedling trees in the border country this season. Of these, 450,000 are being planted on company-owned lands in Minnesota, and the remainder in the vicinity of Fort Frances and Kenora, Ontario, by the Ontario-Minnesota Pulp & Paper Co., Ltd. and by the Ontario department of lands and forests.

NEW WEST COAST TECO OFFICE . . . Timber Engineering Co. has opened a new office in San Francisco, Calif., to provide west coast timber fabricators and building materials dealers with direct sales contact with the manufacturer. The office will be under the direction of Joseph M. Fant, active in the building materials field for 11 years and with TECO for three years.

At the Plant Front . . .

SOUTHERN MILL REBUILT . . . McCracken & McCall, Inc., Lexington, Ky., has replaced its sawmill at Flat Lick, Ky., destroyed by fire last November, with a circular mill cutting from 18,000 to 20,000 feet a day. The planing mill and remanufacturing plant were not damaged in the fire and have been operating.

OREGON PLYWOOD FIRM PURCHASED . . . Douglas Fir Plywood Co., Roseburg, Ore., has purchased the Coquille Plywood division of Textron American, Inc., which has plywood plants at Coquille and Bandon in Oregon. Kenneth W. Ford, president of Douglas Fir, says the Coquille plant will be reopened. There are currently no plans for reopening the Bandon plant.

G-P ADDS SOUTHERN VENEER PLANT . . . Operation of the Denny Veneer Co. at Rocky Mount, N. C., is being taken over by Georgia-Pacific Corp. It will be used to produce oak and gum veneers for use in G-P's factory-finished hardwood plywoods. Its production will supplement veneer supply for the corporation's Savannah, Ga., plywood plant.

NORDIC PLYWOOD LEASES VENEER PLANT . . . The former Perkins Veneer Co. plant near Roseburg, Ore., has been taken over by Nordic Plywood Co. which has resumed operation of the plant. Veneer will go to Nordic's plywood plant at Sutherlin. Milton Clay, formerly with Standard Veneer in Crescent City, Calif., is in charge.

POLE PLANT TO BE REBUILT . . . Schaefer-Hitchcock Co. will rebuild its pole treating plant in Sandpoint, Ida., starting early in July. The new installation will be an open-tank type.

ALBERTA PULP PLANT PLANNED . . . Alberta West Forest Products Corp. has signed an agreement with the Alberta government promising to start construction within a year on a $15 million, 300-ton sulphate pulp mill near Edmonton. Reserve has been placed on 2500 square miles of timber in the Whitecourt area for the next ten years in addition to a 21-year lease on a similar area. Under the agreement, sustained yield forest management will be practiced.

C-Z STUDIES NEWFOUNDLAND SITES . . . Officials of Crown Zellerbach Corp. recently visited Newfoundland preliminary to extensive surveys of timber resources that could lead to establishment of a paper mill. The study will take two years and another two years will be required to develop the results to a point where a mill can be built. C-Z would pay the government $2 a square mile for rental and $1 a cord for wood it cuts. The fee would be $2 a cord if the wood is shipped from Newfoundland for processing.

FORMICA FLAKEBOARD PLANT IN PRODUCTION . . . The $6 million flakeboard plant of Formica Corporation at Farmville, N. C. started production early in June. The plant is patterned after Columbia Hardbord Co., Everett, Wash., is six times as large. Both were engineered by Dale Shubert.

LUMBER PROCESSING FIRM ESTABLISHED . . . Northwest Lumber Processing Co. has been established in Boise, Ida., as franchise holder in Idaho, Montana and Washington for the process of Manresa, Inc., Reno, Nev., for drying lumber. Officers are Robert K. Shelton and Eugene Shellworth, both Boise.

MILL REOPENED IN NEW OWNERSHIP . . . The former West Tenino Milling Co. plant in Tenino, Wash., has been opened as the Holman Lumber Co. under the managership of Walt Holman who operates a mill at Napavine, with planing and dry kiln facilities at Chehalis.

HINES PLANS PLANT REMODELING . . . Extensive remodeling, including a new planing mill, new edger, trimmer and timber handling facilities in the sawmill, and installation of new equipment in the plywood plant are scheduled by Edward Hines Lumber Co., Westfir, Ore. Work was started late in June, should be completed in little over a month. Complete log utilization is the goal.

OREGON MILL BACK IN OPERATION . . . A new company, Crest Lumber Co., has been established and is now operating the former Wideman sawmill between Sheridan and Willamina in Oregon. Principals are Kennard S. Foley, McMinnville, and Joseph Grimm, Beaverton. The mill is cutting 25,000 feet a day.

GLU-LAM PLANT SOLD . . . Fluor Corp., Ltd. has purchased assets of Summerbell Roof Structures, one of the nation's largest manufacturers of glue-laminated timber products and wood roof trusses. Both are located in Los Angeles, Calif. Summerbell will become a division of Fluor under direction of Harold S. Bender, assistant to the president of Fluor, who will be general manager.

Personalities . . .

NYMAN NAMED MANAGER . . . Fort Vancouver Plywood Co., Vancouver, Wash., has named V. A. Nyman general manager. Nyman will continue part-time as executive secretary and general manager of Aberdeen Plywood Co., Aberdeen, Wash., which is being liquidated.

ORELL NAMED WEYERHAEUSER V-P . . . Bernard L. Orell, formerly vice-president of Weyerhaeuser Sales Co. in St. Paul, Minn., has been elected a vice-president of Weyerhaeuser Timber Co. and is being transferred to Tacoma, Wash. He will direct and coordinate the over-all resource relations and public affairs activities of WTC and its subsidiaries. Activities of the public information department and its personnel remain unchanged.

MEREDITH HEADS WHOLESALERS . . . At the 66th annual meeting of the National-American Wholesale Lumber Association, Donald R. Meredith, D. R. Meredith Lumber, Inc., Medison, Conn., was elected president, succeeding Martin T. Wiegand of Martin Wiegand, Inc., Washington, D. C. Other officers named include J. Ward Allen, Allen-Stoltze Lumber Co., Ltd., Vancouver, B. C., first vice-president; J. Alex McMillan, John C. Shepherd Lumber Corp., Charlotte, N. C., second vice-president; Sid L. Darling, New York City, N.Y., executive vice-president.

NORTHERN INTERIOR LUMBERMEN ELECT . . . Reg. W. Hilton, president of Shelley Sawmills Ltd., Shelley, B. C., has been elected president of the Northern Interior Lumbermen's Association. Also elected at the annual meeting in Prince George was C. T. Clare, manager of Upper Fraser Spruce Mills, Ltd., Upper Fraser, B. C., vice-president. Robert J. Gallagher continues as secretary-manager. The association also held a sawmill and logging equipment show, reported to be the largest ever held in the region. .

OREGON GROUP NAMES OFFICERS . . . Robert Kline of the Kline Logging Co., Medford, Ore., has been elected president of the Southern Oregon Conservation and Tree Farm Association. Other officers include T. K. Oliver, Timber Products Co., Medford, and Robert Kelson, Southern Oregon Plywoods, Grants Pass, vice-presidents; and Leo Hoag, Hoag Logging Co., Trail, treasurer.

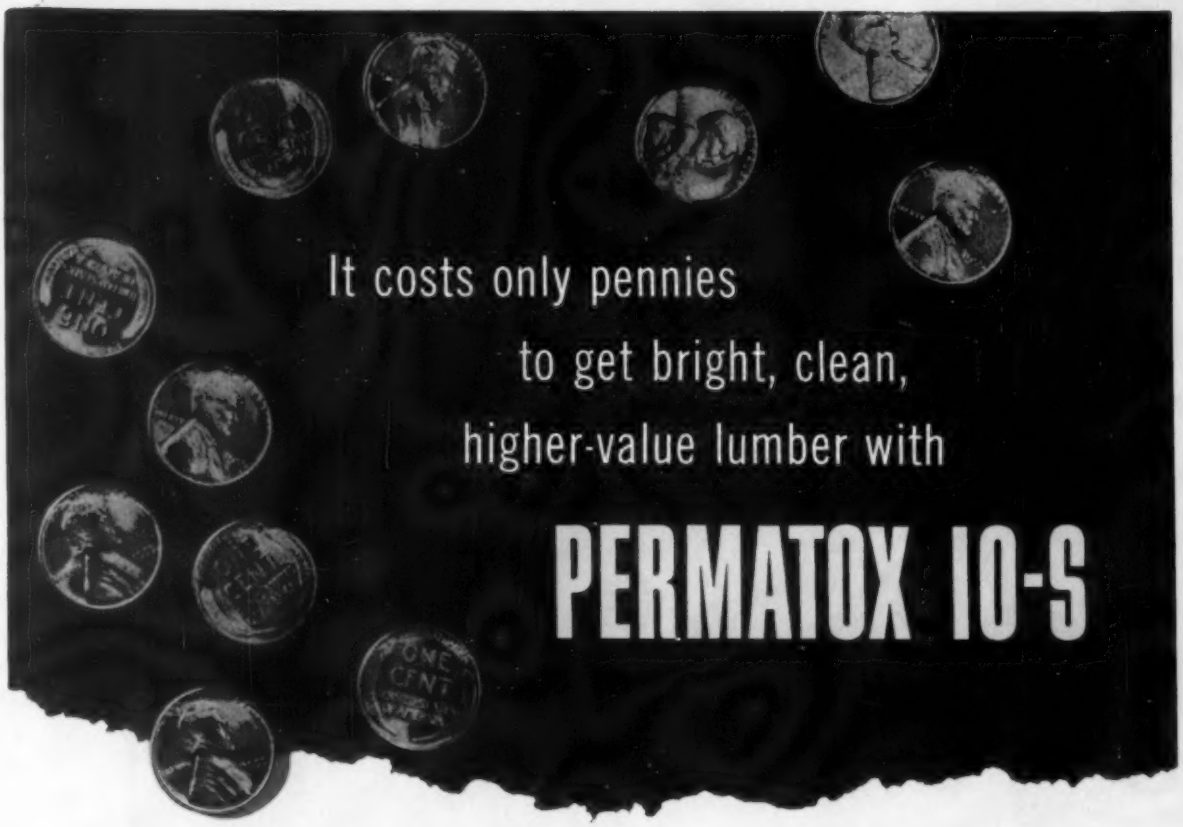
MILL MANAGER NAMED . . . Ernie Lillos, formerly superintendent of the Elk Falls Co.'s new sawmill at Duncan Bay, Vancouver Island, B. C., has been appointed resident manager of the Bridge Lumber Co., recently acquired by Crown Zellerbach Canada to serve as an outlet for cedar lumber production. The mill is located on Mitchell Island near Vancouver.

KOOTENAY FOREST PROMOTION . . . E. L. Vance has been named executive vice-president and R. E. Wallace picked to be sales manager at Kootenay Forest Products Ltd., Nelson, B. C.

C-Z FORESTER TRANSFERRED . . . C. H. Willison, assistant chief forester in Crown Zellerbach Corp.'s Northwest timber department has been transferred from Port Angeles, Wash., to Portland, Ore., where he will assume more forest management duties.

RESEARCH CENTER CHIEF NAMED . . . Irvin C. Reigner has been appointed leader of the Kingston, Pa., research center of the Northeastern Forest Experiment Station, U. S. Forest Service.

AFPI FILLS WESTERN POST . . . Robert L. Jordan, formerly in the forestry department of Montana State, Missoula, Mont., has been appointed district manager for American Forest Products Industries in San Francisco, Calif. He succeeds Alvin Klotz who has joined U. S. Plywood Corp. at Anderson, Calif.



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Permatox 10-S is the most effective chemical product yet developed for control of stain and mold in lumber during air seasoning. It saves many times its low cost by preventing expensive degrade which cuts profits.

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DISTINCTIVE FEATURES

- ★ Elimination of sniped ends.
- ★ Smoother finish around knots and cross grain, with less tendency to loosen knots.
- ★ Continuous support of stock on bed plate before and after cut on bottom head.
- ★ Less lead required in guide as angle cutterhead serves to hold stock against the guide fence, preventing side friction, feed roll wear and edge sniping.
- ★ Less power consumption in feeding stock.
- ★ All operating adjustments can be made from the front or working side of machine.
- ★ Wide face helical gears for feed works, assuring continuous tooth mesh and quieter operation.
- ★ Independent quick green stock lift for first bottom feed-in rolls.
- ★ Bottom head cylinder can be pulled out for changing knives without disassembling motor.
- ★ Individual ball bearing housings for all cutting units.
- ★ All ball and roller bearings housed in dust-proof housings. Grease lubricants for roll bearings. Regulated wick oil feeders used on all cutting units. Forced feed lubrication for feed gears.

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How fast could your yard men pile 2256 boards?

Sitting at the controls of a Gerlinger fork lift truck this driver has moved 11,000 board feet of lumber from mill to pile in just a few minutes. Handling about 8 million feet yearly he puts a lot of extra dollars in the company till.

Your building materials never lag in their flow through mill, yard or warehouse when Gerlinger supplements your manpower. Pivotal steering, counter-active weight distribution and positive fingertip controls make these giant lift trucks as easy to maneuver as your family car. Moving 20 boards or 20 tons are the same to a Gerlinger.

New data folders are available free to show you many ways to benefit with Gerlinger equipment. Send coupon for the specs most widely used in the building materials field.

Leaders for 39 years in building Fork Lift Trucks, Tractors and Carriers

TOWMOTOR
THE ONE-MAN-GANG
-GERLINGER

*Gerlinger Carrier Co., Dallas, Oregon, is a subsidiary of Towmotor Corporation, Cleveland, Ohio

Gerlinger Fingertip Control makes this powerful lift truck simple and easy to operate. Motive, hoist and tilt levers are located within easy reach of operator's right hand.

Gerlinger Torqmatic Drive safeguards engine from damaging shocks, prevents stalling, eliminates gearshift guess and lessens driver fatigue. Advanced Gerlinger Power Steering is an optional extra.

Gerlinger Material Carriers up to 30 tons capacity handle the biggest jobs you have. Straddling lumber, logs, timber and huge pallet loads of materials, they are extremely versatile.

☐ Send free Gerlinger Fork Lift Truck literature with specs

☐ Send free Certified Job Studies relating to lumber and building materials

Name_____

Company_____

Address_____

Mail to **GERLINGER CARRIER CO.**, Dallas, Oregon

Why the Pacific Lumber Company chose

When you invest in a relog mill, you know that one big factor in making a profit is the cost of operation. Working on extremely close margins, you need the most economical, dependable, efficient power to do the job. For that kind of power, the Pacific Lumber Company chose two Cat D397 Electric Sets for its mill in the Elk River area, California. The twin D397s with GE generators power the entire $1,000,000 plant, which is designed to cut 40,000 to 45,000 bd. ft. of reclaimed lumber a day.

Whether you invest millions or thousands, you can count on Cat Diesel power for money-making performance. Every unit in the modern heavy-duty Caterpillar line, large or small, is designed to deliver low-cost operation and easy maintenance. Every inch of these Diesels is built with precision workmanship and superior materials. For example, study the valve rotator and the fuel injection system shown here. They're typical of Caterpillar construction and are just two of many reasons why Cat units are famed in logging and lumber operations for steady, profitable production.

Power for the entire $1,000,000 relog mill of the Pacific Lumber Company is provided by huge twin Cat D397 Electric Sets with GE generators. Because of their dependable, low-cost performance, the company added a Cat D311 Electric Set to power lights, etc., when the mill is shut down.

ENGINE POWER

BY CATERPILLAR

CAT power for its $1,000,000 relog mill

Your Caterpillar Dealer has a wealth of power experience. His line-up of engines ranges up to 650 HP and electric sets up to 350 KW. Each is honestly rated and certified for capacity. As a result, he's in a position to make an expert recommendation of the *right* unit to meet your requirements. And his interest in your operation doesn't stop there. When you invest in Caterpillar power, your dealer backs you with *fast, dependable* service around the clock. He'll be glad to help you with your power problems. Give him a call today!

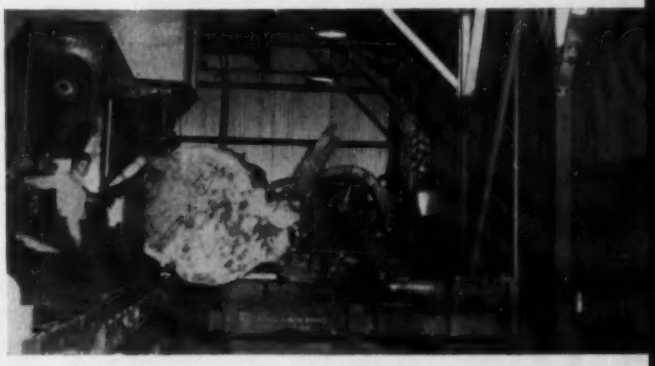
Engine Division, Caterpillar Tractor Co., Peoria, Illinois, U. S. A.

Caterpillar and Cat are Registered Trademarks of Caterpillar Tractor Co.

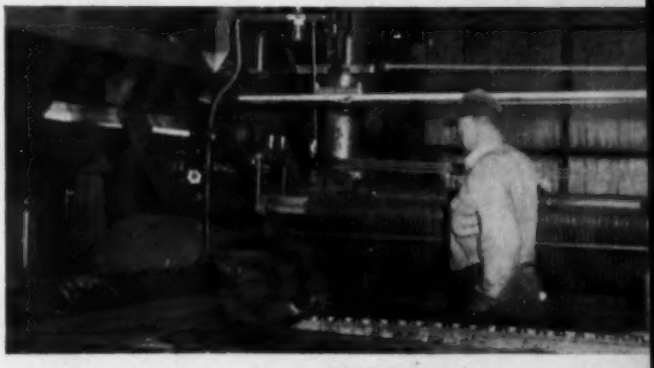
Valve Rotators, a distinctive feature of the D397, turn the valves slightly each time they are lifted. This constantly changes the relationship of valve and seat, retarding valve or seat burning and carbon build up. Hard replaceable valve seat inserts, heat-resistant valves, cast-iron guides plus in-line action thrust sleeves are quality features which mean dependable, low-cost operation.

Caterpillar fuel injection system offers many benefits. It burns a wide variety of low-cost fuels without fouling for a 3-way saving—cheaper fuel, less of it and minimum maintenance. It is free from frequent checks and adjustments; maintains loads for long periods without power drop; idles smoothly and runs steadily on all cylinders; handles variable loads with quick response.

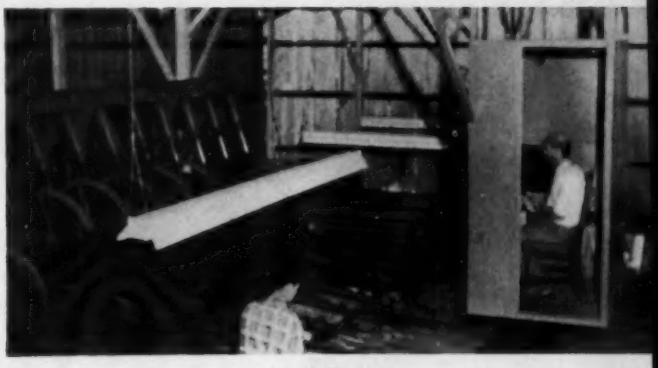
These twin Cat D397 Electric Sets with GE generators power all equipment in the company's plant, and the Cat D311 Electric Set, in foreground, furnishes electricity for lights, etc., when the mill is shut down. Some of the equipment powered is shown on this page.



BANDSAW HEADRIG



6 x 80 EDGER



TRIM SAW

Dept. LU7, Engine Division,
CATERPILLAR TRACTOR CO., Peoria, Illinois, U. S. A.

Send me more information about Caterpillar power. I have checked the proper box to guide your selection of material.

- ☐ I would like detailed information, as I may be in the market for a Cat Engine or Electric Set. I understand I am under no obligation.
- ☐ I am interested in learning more about these engines.

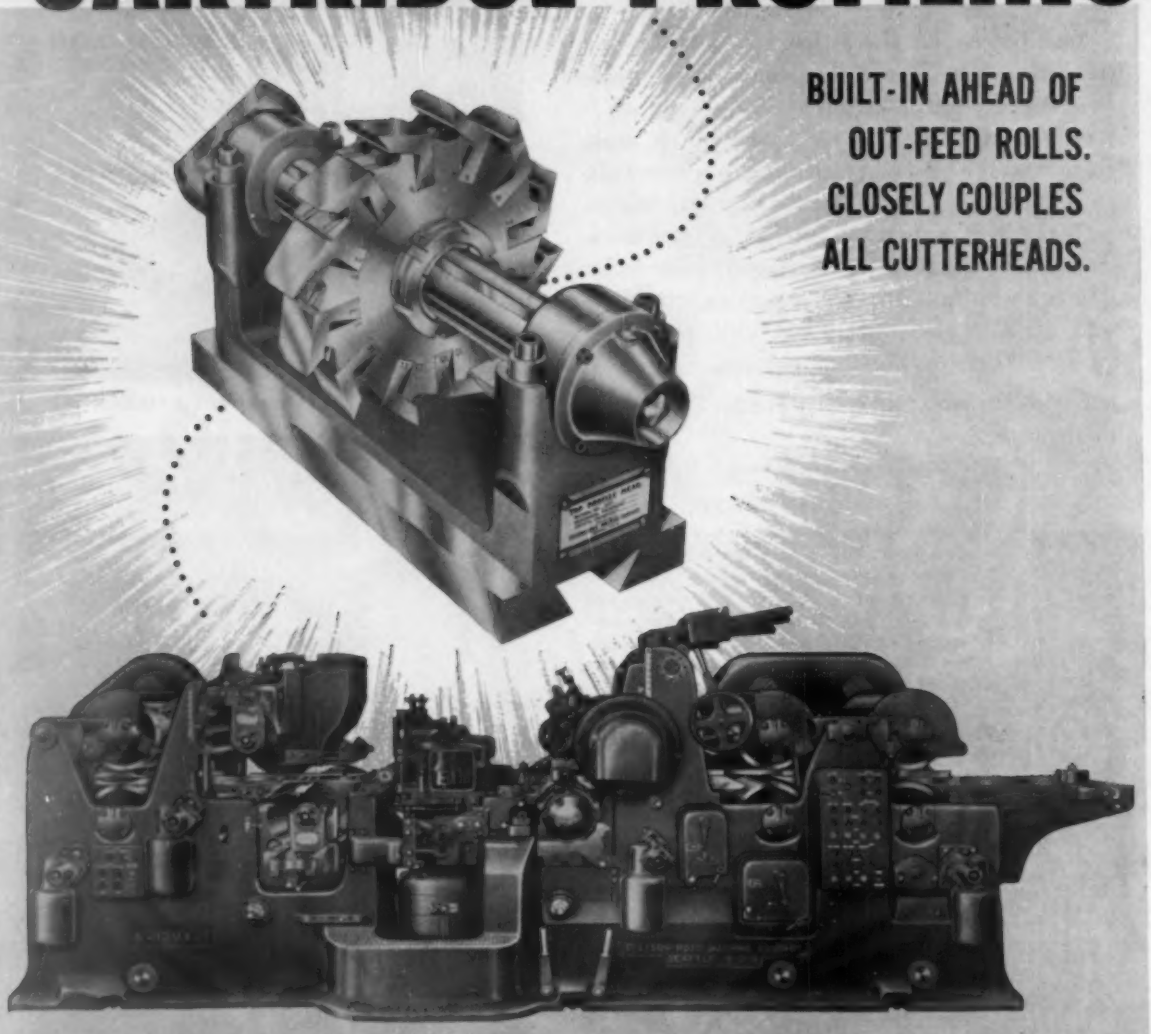
Name_____

Company_____

Address_____

City_____ Zone____ State_____

*CARTRIDGE PROFILING



BUILT-IN AHEAD OF
OUT-FEED ROLLS.
CLOSELY COUPLES
ALL CUTTERHEADS.

An original cost reducing feature of Stetson-Ross Planer-Matchers for over 45 years

*Pre-set "cartridge" profile units built-in ahead of outfeed rolls give you highest quality millwork, and instantaneous pattern change through the use of spare "cartridge units." These are fundamentals of good machine design, developed and perfected by Stetson-Ross.

Touchup jointing of profile "Cartridges" on the machine, spring-loaded sectional pressure plates, on top profiler and numerous optional profile features have been available for many years on our machines.

For tomorrow's planing mill profits today, see Stetson-Ross!

STETSON–ROSS
MACHINE COMPANY INC.
SEATTLE 4, WASHINGTON

EXPORT DIVISION
301 CLAY STREET, SAN FRANCISCO, CALIFORNIA

Our Research Today for Your Progress Tomorrow

YOUR DEPENDABLE SOURCE . . .

ADHESIVES & SYNTHETIC RESINS FOR—

PLYWOOD
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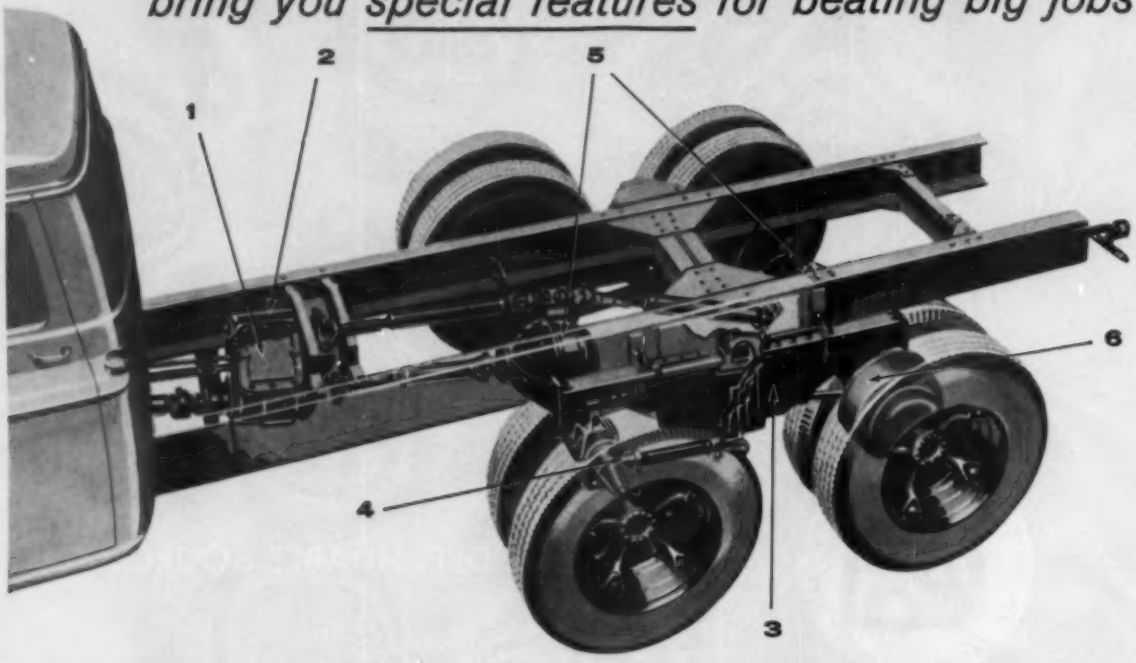
AMERICAN-MARIETTA COMPANY
SEATTLE, WASHINGTON

CHEVROLET'S NEW TANDEMS

bring you special features for beating big jobs!



Because of their unique features, Chevrolet's new Triple-Torque tandems are more economical to operate. They're designed to bull their way through the tough spots with tremendous traction . . . with less stress and wear on parts!

Here are some of the design advantages that make Chevrolet tandems tops on big, tough jobs:

1. Chevrolet's exclusive TRIPLE-TORQUE DRIVE is provided by individual propeller shafts driven from a 3-speed auxiliary transmission right in the power divider.

2. Integral 3-SPEED POWER DIVIDER can be shifted instantly to single axle drive for economy or dual axle drive for full traction over rugged roads.

3. The Triple-Torque tandem's articulated WALKING BEAM assures owners of greater ground clearance . . . the utmost flexibility for operation on rough terrain.

4. "TRACKING" WHEELS, because of Chevrolet's rubber-bushed steering torque rods and walking beam ends, stay in alignment on straight roads, follow curves. Increase tire life, driver control.

5. Two built-for-work 15,000-LB.-CAPACITY AXLES with 7.20 to 1 ratios! Choice of standard 7,000-lb. or extra-cost 9,000-lb.-capacity front axle.

6. BIG TWIN-ACTION BRAKES are designed to last! Extra braking power with heavy-duty Hydrovac power brake. Full-Air or Air-Hydraulic brakes optional at extra cost.

Let your Chevrolet dealer show you these, and the many more exclusive tandem features designed to get your big jobs done quickly, dependably and economically! . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

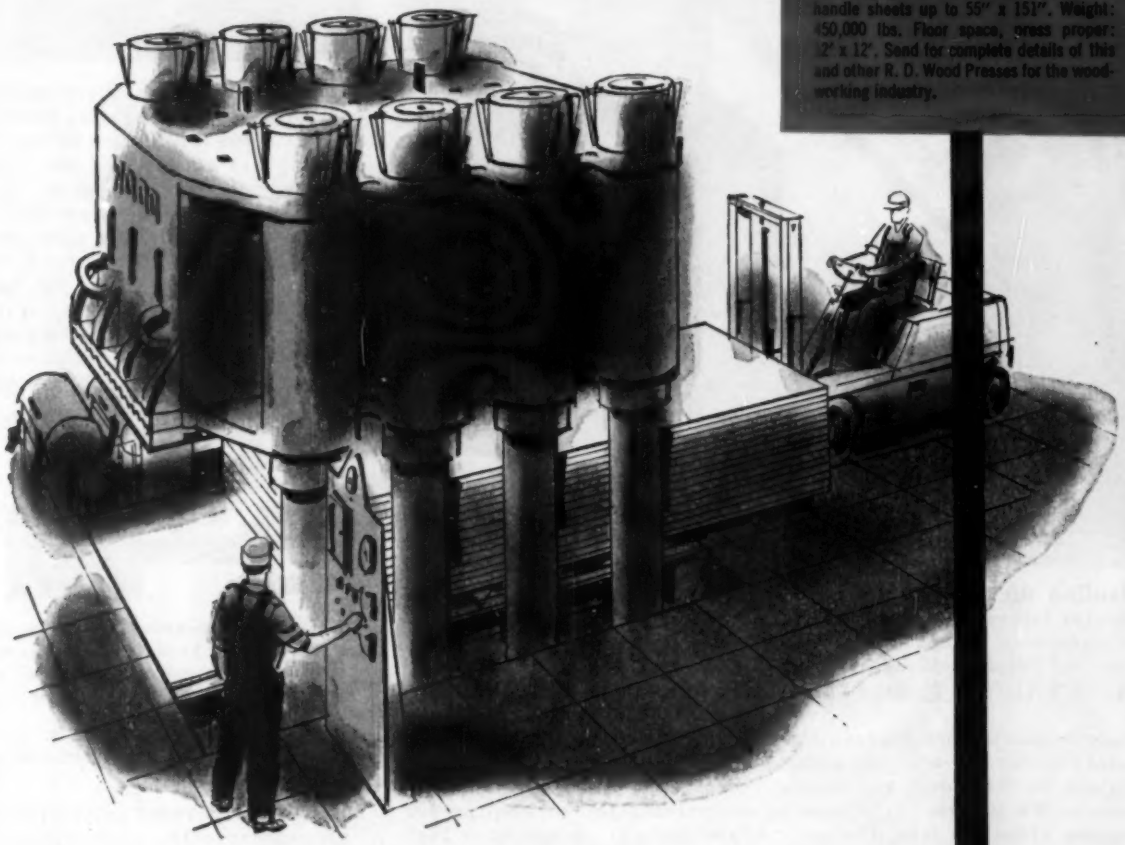
CHEVROLET **CHEVROLET TASK·FORCE TRUCKS**

Engineered for Performance

Put a Wood Press to work and get the money-saving advantages of smooth, dependable performance . . . long operation with low maintenance.

Reason: every Wood Press is the product of sound design, carefully selected materials, conscientious craftsmanship. This is why Wood Presses are known throughout industry for their trouble-free operation and fast, economical production. R. D. Wood has many standard press designs for producing hardboard, composition building boards, veneer, plywood and pressed wood—and engineers others for special jobs. Write for our catalog and engineering information. No obligation, of course.

R. D. Wood Combination Press for asbestos flat board and corrugated asbestos board. Operation of this fast working, high production machine may be manual, semi-automatic or fully automatic. Entire unit is self-contained with motor-driven pumping system, valves and controls. Capacity: 6400 tons. Daylight: 3'-10". Stroke: 3'-10". Can handle sheets up to 55" x 151". Weight: 450,000 lbs. Floor space, press proper: 12' x 12'. Send for complete details of this and other R. D. Wood Presses for the wood-working industry.



R. D. WOOD COMPANY

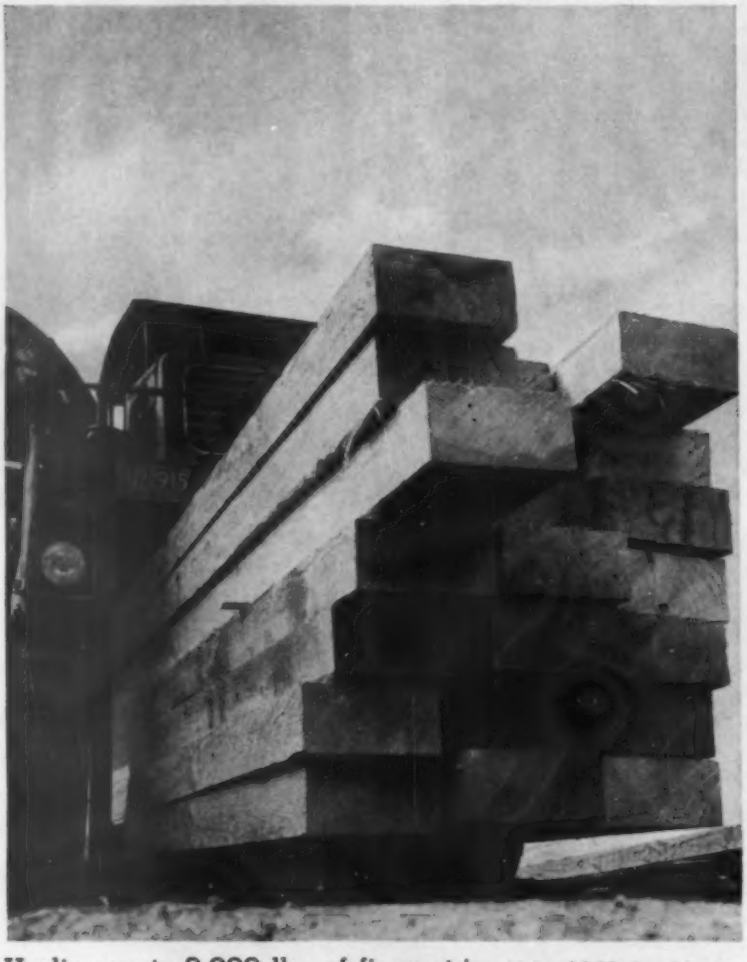
PUBLIC LEDGER BUILDING • PHILADELPHIA 5, PENNSYLVANIA

STANDARD ENGINEER'S FIELD REPORT

PRODUCT **RPM SUPREME MOTOR OIL**

FIRM **ERSKINE LUMBER CO., Swisshome, Oregon**

24,200 tough hauling miles without major overhaul

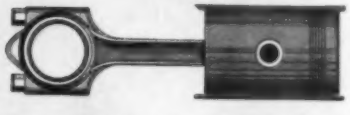


Hauling up to 9,000 lbs. of fir per trip, this 1955 Gerlinger carrier (above), makes 16 trips daily from sawmill to planing mill at speeds to 25 mph upgrade under full load. Carrier's 130 h.p. Ford V-8 Industrial engine, using RPM Supreme Motor Oil, operated 24,200 miles for Erskine Lumber Co. without major overhaul.

Reports maintenance Superintendent Paul Washburn: "It would certainly be hard to beat the service we've gotten out of our carrier engines on this tough and unusual hauling job. A lot of the credit goes to RPM Supreme. It's done an exceptional job of keeping our engines clean and free of deposits, and our oil consumption low. We've had no repairs between overhauls. When this carrier engine was torn down, there was no sign of lacquer or stuck rings, sludge or anything else. It was in very good shape, with less than normal wear on bearings, rings and cylinders."

Erskine Lumber Co. operates four carriers at its Swisshome, Oregon, sawmill, uses RPM Supreme Motor Oil exclusively in all of them. 1955 Gerlinger (above) is typical unit which averages 2200 miles per month, 11 months a year. Firm also uses RPM Supreme in two Gerlinger 8-ton stackers, a 1949 Ford Model 210 dump truck and an American one-yard shovel powered by a Waukesha gasoline engine. Erskine has used Standard Oil products for 8 years.

RPM SUPREME Motor Oil halts engine wear



- Exclusive Non-Metallic Polymeric Detergent-Action Compound keeps engines so clean, guards them so well, they last years longer.
- Anti-oxidant resists deterioration of oil and formation of lacquer.
- Engines get SUPREME protection in all seasons, climates, conditions.

For More Information contact your Standard Engineer or Representative, or write 225 Bush Street, San Francisco 20, California.

SUPREME RPM MOTOR OIL

TRADEMARK "RPM" AND CHEVRON DESIGN REG. U.S. PAT. OFF.

STANDARD OIL COMPANY OF CALIFORNIA

BETTER BALANCE between production and orders or shipments is being achieved by industry members, statistical reports of association indicate. Inventories, as a result, are generally lower than a year ago.

In redwood, both orders and shipments in April exceeded production. And production exceeded output of the previous two months.

Southern Pine orders continue to exceed production with stocks now 1% below a year ago.

Orders and production in the West Coast area are closer in line and inventories are below a year ago.

Western Pine shipments exceed output and stocks are under a year ago.

GROWING IMPORTANCE for Canada in the free world's pulp and paper market is indicated by a new market survey by J. Walter Thompson Co. The survey shows Canada to have the largest remaining accessible timber resource in the free world. The inventory reveals nearly 363 billion cubic feet of accessible timber of merchantable size over an area of 536.9 million acres . . . a 10% larger timber area than that of the United States.

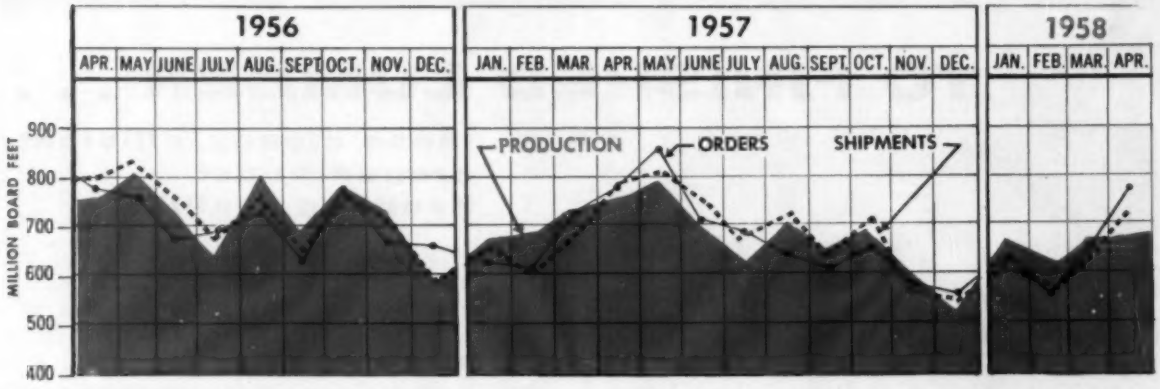
Total annual cut is now about 3.5 billion cubic feet, about 48% of the potential. There is an ample raw material supply for future growth.

AMPLE TIMBER GROWTH in the United States in the past 10 years and an optimistic outlook are the conclusions of the Forest Industries Council as a result of studies of the "Timber Resources for America's Future" report by the U. S. Forest Service. Two major points on which the optimism is based are improved forest conditions following cutting, and more effective control of fire. Observations are: firms with large timber holdings are more aware of the importance of providing a future raw material source; more basic raw materials are being made available to the pulp and paper industry at a time when prediction indicate an increase demand for products of 47% by 1956; and increased utilization by the industry that means more use of the tree.

IN BRITISH COLUMBIA. The coast reports like change in activity, but interior mills have experienced considerable improvement with prices up $3 to $ a thousand in the past month or two. Key factors in the interior are increased demand in the prairie provinces and the elimination of small, speculative mills. Wage negotiations and the fire hazard are keeping the coast unsettled. B. C. export traffic is slow. A final determination on the wage negotiations will is a key to B. C. activity.

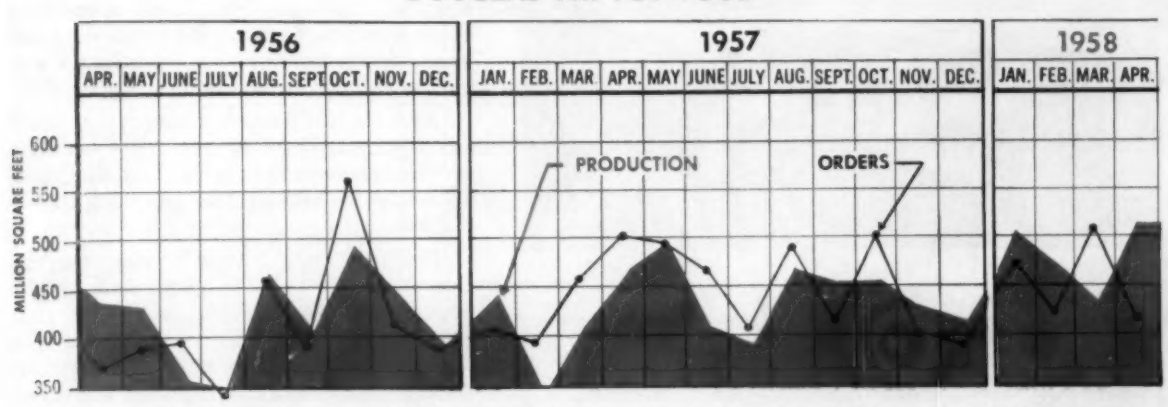
(Continued on page 23)

DOUGLAS FIR



DOUGLAS FIR REGION lumber production for four months totals 2.7 billion feet. Orders total 2.6 billion feet, shipments 2.5 billion feet. Unfilled orders at the end of four months total 580 million feet, compared to 628 million feet a year ago.

DOUGLAS FIR PLYWOOD



DOUGLAS FIR PLYWOOD statistics, compiled by the Douglas Fir Plywood Association, are not available for May. The association announced early in May that its Barometer, issued weekly, would be suspended for a minimum of four weeks.

FROM THE MILL . . .

TO FINISHED LUMBER . . .

these steady, efficient cranes boost handling profits

Packing plenty of strength, lifting capacity, and precision control into a stable, maneuverable unit, Bucyrus-Eries turn mill or lumber yard handling into a speedy, profitable operation.

With a Bucyrus-Erie crane, you get more actual working time each day, boost your entire efficiency. It stays on the job. It's built tough. Main machinery is simple, compact, easy to maintain. The strong open-throat boom easily withstands the stresses of big loads. Independent power controlled lowering boom hoist is standard.

And for budget-cutting versatility, you'll enjoy Bucyrus-Erie convertibility — on the spot changeovers to dragline, clamshell, hoe, shovel, or log-heeling front end for a variety of jobs.

Drop in today at your nearest Bucyrus-Erie distributor and get all the facts on the popular choices of mill owners — the 15-B, 22-B, and 30-B crawler-mounted cranes. For widely scattered operations, ask about carrier-mounted Bucyrus-Eries with rated crane capacities of 10, 15, 25 and 35 tons.

521858

BUCYRUS ERIE

A Familiar Sign at Scenes of Progress

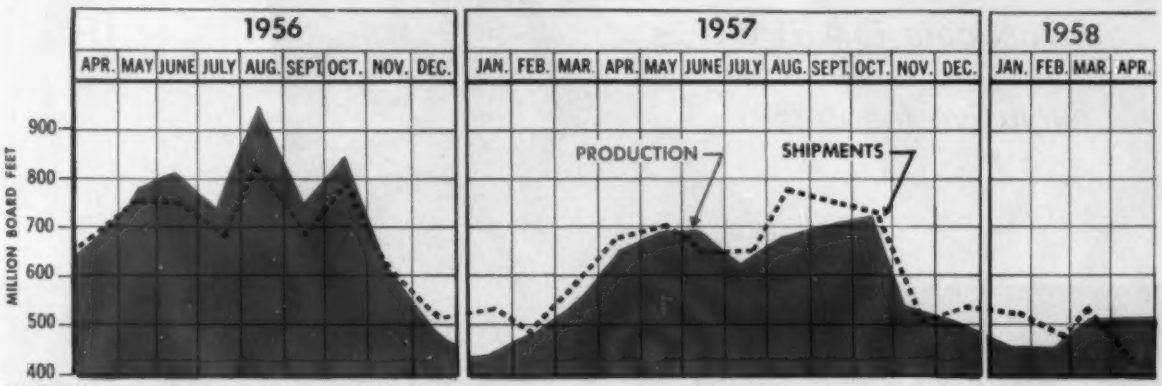
BUCYRUS-ERIE COMPANY • SOUTH MILWAUKEE, WISCONSIN

(Continued)

WATERBORNE MOVEMENT of lumber from western North America in April picked up over March, but possibly not as much as seasonally expected. Footage moved in April was 268.9 million feet, vs. 248.9 million in March. Export totals to the major market, United Kingdom, picked up in April, both for the U. S. at 11 million feet, and British Columbia at 35.7 million feet. Movement in the major domestic markets, the Atlantic Coast and California, was also up over March.

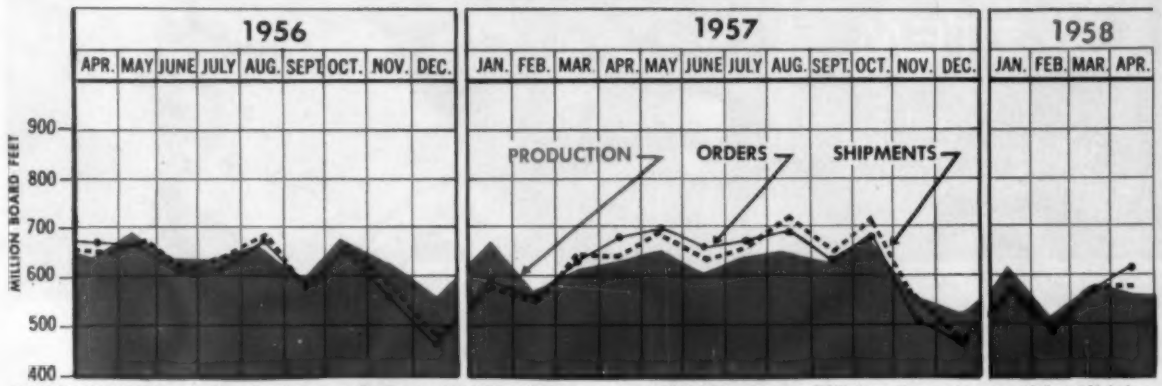
WOODEN BOX SHIPMENTS from the Pacific division continues behind the pace of 1957. At the end of three months, shipments of 46.6 million feet are 3% behind the 48 million feet of the same period of 1957.

WESTERN PINE



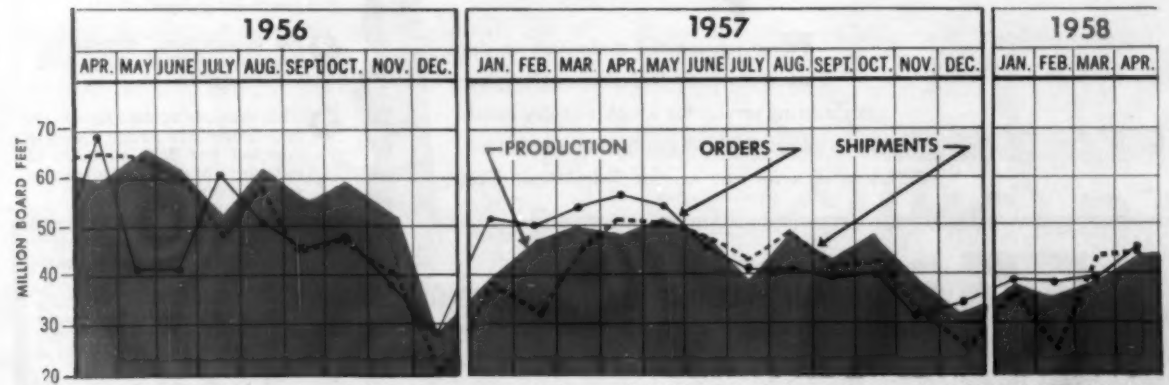
WESTERN PINE production for four months totals 2 billion feet, compared to 2.2 billion feet a year ago. Shipments total 2.1 billion feet compared to 2.3 billion feet a year ago. Gross stocks on April 30 of 1.89 billion feet compare to 1.97 billion feet a year ago.

SOUTHERN PINE



SOUTHERN PINE production for four months totals 2.3 billion feet. Orders total 2.25 billion feet, shipments 2.2 billion feet. Unfilled orders total 184 million feet, up 22% from the previous month but 4% below a year ago. Gross stocks at 2 billion feet are 2% behind a year ago.

REDWOOD



REDWOOD production for four months totals 153 million feet, compared to 182 million feet a year ago. Shipments total 145 million feet, orders 156 million feet. Orders on hand on April 30 totaled 59 million feet, stocks on hand totaled 401 million feet.

Planning to make particle board?

...make the best!

Investigate **BAEHRE's**

exclusive features

Baehre
SYSTEM

Producing the world's finest flakeboard

Features:

1. Automatic mat-forming station with air separator concentrates larger flakes in center of board, only fines to exterior, making a graduated 3-layer effect.
2. No "telegraphing" through face veneer, although only 1/32" veneer applied.
3. Thin sections of rabbets, mitres and dadoes are stronger due to compact fine flake structure at exterior. May be banded for perfect finish.

Now represented exclusively in the United States by Soderhamn. Complete engineering service for a lock-and-key installation with quality and production guaranteed. *Call, wire or write your nearest Soderhamn office.*

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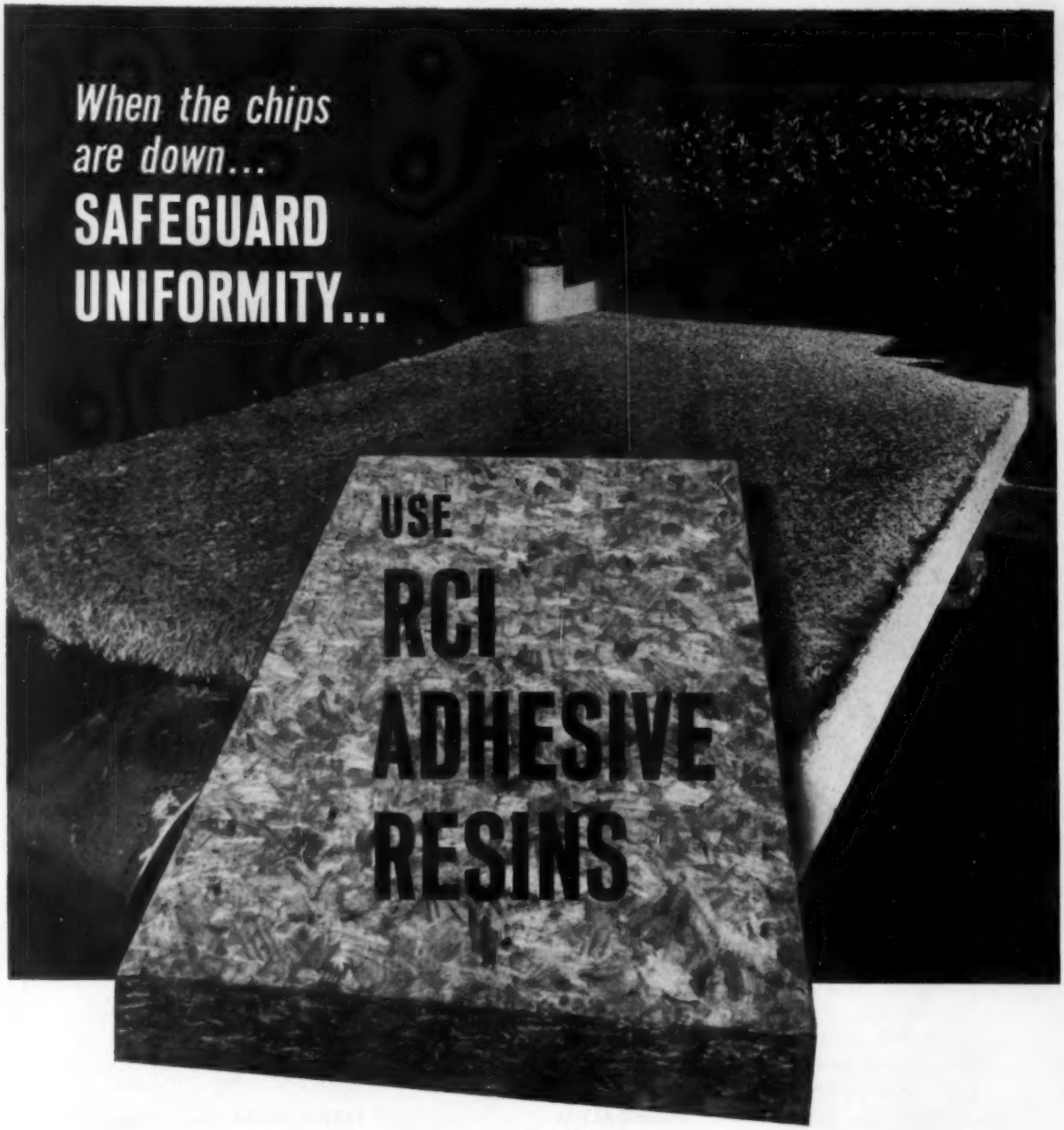
Also representing:

BECKER & VAN HULLEN presses — veneer and plywood.

JONSEREDS famous woodworking machines. A complete line of production machines made by the oldest and largest Swedish manufacturer. Catalog on request.

SODERHAMN barking, chipping and screening equipment.



The even distribution of flakes and adhesive is all-important in the manufacture of high grade particle board. This means that the resin you use must be of dependable high quality in order to bind the flakes into a firmly uniform finished product.

RCI's particle board adhesives meet these rigid specifications with plenty to spare. That's why the American Parboard Corporation, Black Mountain, N. C. (where the photograph above was taken), uses Reichhold adhesive resins *exclusively* in its particle board production.

And don't forget, when you do business with RCI, you can count on expert technical assistance, plus fast dependable delivery all over the country.

If *you* are interested in particle board manufacture, write Reichhold for a copy of Booklet PB . . . which covers this subject in detail.

REICHHOLD

Urea-Formaldehyde, Phenol-Formaldehyde, Polyvinyl Acetate and Resorcinol Adhesives, Protein Glues.

REICHHOLD CHEMICALS, INC.,
RCI BUILDING, WHITE PLAINS, N. Y.

Creative Chemistry . . . Your Partner in Progress

RCI

approved
and
ready to roll

alum

by Stauffer

In bags, bulk, or liquid form, Stauffer's Alum meets the exacting standards of the Forest Products Industry for purity and uniformity.

Stauffer's West Coast manufacturing plants assure prompt, dependable service for users of Alum throughout the West.

An experienced staff of Stauffer technicians stands ready to help you with any chemical problem.

Stauffer Alums:

LIQUID ALUM
Available for immediate delivery from Tacoma, North Portland and Richmond.

DRY ALUM
Available for immediate delivery from Richmond, California.

Other Stauffer Products:

FERRIC SULFATE
Available for immediate delivery from Richmond, California.

SULFURIC ACID
Available for immediate delivery from Tacoma and Richmond.

For further information or data on these and other Stauffer chemicals, write or contact your nearest Stauffer sales office shown below.

Stauffer CHEMICALS SINCE 1885

STAUFFER CHEMICAL COMPANY
636 California St., San Francisco, Calif.

Box 68, North Portland, Ore. • 824 Wilshire Blvd., Los Angeles, Calif.

with Roots Deeply Embedded in the Wet Earth...

. . . **Tupelo Gum,** sometimes called the swamp tree, is a valuable species that grows well in areas too low and wet for other trees, except cypress. Tupelo gum presents a beautiful grain pattern when rotary cut and is valued as face veneers in plywood panels.

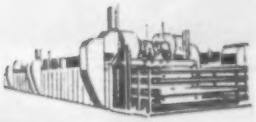
When thinking of rotary cutting of veneer one's thought naturally turns to ***COE*** — the pioneer developer of the rotary lathe.

From the small lathe developed over a century ago the ***COE line*** of veneer lathes has been consistently expanded and refined. Today, there is a ***COE*** lathe exactly adapted in size and operational features to profitably cut into veneer all types and sizes of trees that grow anywhere in the world.

And, in addition the ***COE line*** including related machinery — ***clippers, dryers, knife*** grinders, has been similarly expanded.

The coordinated operation of these related machines assures "top" performance and high efficiency with economy of operation.

And the unexcelled performance accounts for the fact that an impressive percentage of the leading veneer producers have standardized on ***COE*** machinery.



THE COE MFG. CO.

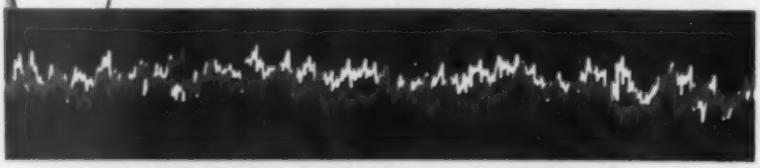
Painesville, Ohio

API VENEER TAPE

The line that guarantees

uniform adhesive qualities

inch after inch—roll after roll



Accu Ray chart on which continuous electronic measurement of glue application to API Veneer Tape is recorded.

API Tapes
the ADHESIVE PRODUCTS INC.
520 East Shore Highway
Albany, California
Seattle • Los Angeles

4921

European Representative Named for Journals

Establishment of an office in Cologne, Germany, and appointment of Dr. Walter F. Vogeno as director of European Operations for the company's group of business and technical publications has been announced by William B. Freeman, president of Miller Freeman Publications, San Francisco.

DR. W. F. VOGENO

Dr. Vogeno's initial activities will be devoted to Miller Freeman Journals covering industries of international scope, including THE LUMBERMAN, THE TIMBERMAN, and PULP & PAPER INTERNATIONAL, the company's recently announced overseas edition of PULP & PAPER.

Dr. Vogeno, formerly associated with Klockner-Humboldt-Deutz AG, leading German manufacturer of mineral dressing and process equipment, diesel engines, tractors and industrial power units, is well known in European industrial and technical circles. His educational background includes degrees in engineering and mining from the Technical University at Aachen and an interim masters degree from Montana School of Mines in the United States. He has worked as a mineral dressing engineer, as manager of a processing engineer office, managed a machine building company and has worked in export sales.

In announcing the appointment, Mr. Freeman said the expanded program of Miller Freeman Publications in Europe, to be followed shortly by similar facilities in London for the United Kingdom, has been undertaken in recognition of the growing technical developments taking place in Europe and elsewhere which must be accorded attention by the firm's journals.

"Related to this," Mr. Freeman points out, "is the increasing trend toward closer business, industrial and trade ties between America and western Europe countries which is of primary significance to our journals in the heavy industry and raw material producing fields."

Establishment of new facilities in Europe is the outgrowth of study and development carried on in Europe since mid-1957 by Max F. Holsinger, general manager of international operations, on leave from his former post in San Francisco, who has been operating from the company residence headquarters at 25 Montagu Square, London, W. 1.

Oregon Plywood Plant In New Ownership

Oregon-Washington Plywood Co., Garibaldi, Ore., has been acquired by a new firm, Backus Plywood Corp., which comprises several executives of the former ownership.

New officers of the firm, which operates plants in Garibaldi and Brookings, are Roy Backus, president; Alfred N. Sachs, secretary-treasurer; Theodore Nicolai, executive vice-president and general manager. Backus had served for 10 years as eastern sales representative for the firm and Nicolai is a son of Oregon-Washington's founder, Harry T. Nicolai.

Others formerly associated with the firm who will serve as officers include Robert Berkey, Howard Cram and Robert Hamann.

•

Sales Staff Expanded

W. G. Roberson, Jr., has joined the staff of Durable Plywood Sales Co., Menlo Park, Calif., and will work in promotion, with emphasis on specialty products. *Etchply* and *Plyron* will receive much attention.

Industry Meetings

JULY

West Virginia Forest Fire Prevention Conference, July 6-8, Greenbrier Hotel, White Sulphur Springs, Va.
Forestry Conservation Communications Association, July 16-18, Parker House, Boston, Mass.
National Wooden Box Association, Pacific division, summer meeting, July 23-24, Casa Munras Hotel, Monterey, Calif.

AUGUST

Northern Forestry Congress, August 23-30, Stockholm, Sweden.

SEPTEMBER

Western Pine Association, semi-annual meeting, September 10-12, Multnomah Hotel, Portland, Ore.
North American Forest Soils Conference, September 8-11, Michigan State University, East Lansing, Mich.
Concatenated Order of Hoo Hoo, September 14-17, Sahara Hotel, Las Vegas, Nev.
Northwest Hardwood Association, annual meeting, September 26-27, Congress Hotel, Portland, Ore.
Society of American Foresters, national meeting, September 29-October 2, Hotel Utah, Salt Lake City, Utah.

OCTOBER

Architectural Woodwork Institute, October 14-17, LaSalle Hotel, Chicago, Ill.
Insulation Board Institute, annual meeting, October 21-23, Seaview Club, Absecon, N. J.
American Forestry Association, October 27-30, Tucson, Ariz.

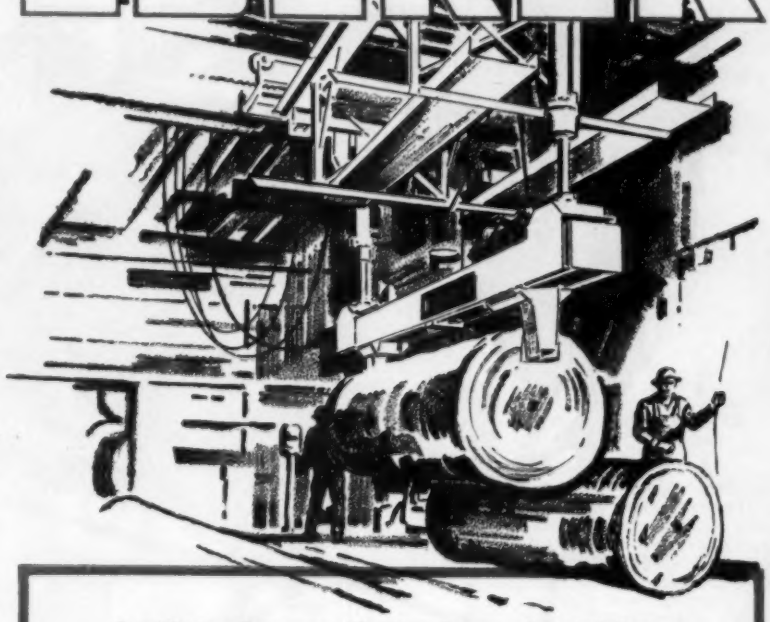
NOVEMBER

Hardboard Association, annual meeting, November 5-6, Chicago, Ill.
Forest Products Research Society, Carolinas-Chesapeake section, November 6-7, Charlotte, N. C.
Pacific Logging Congress, November 10-12, Multnomah Hotel, Portland, Ore.
Governor's Safety Conference (Washington) November 13-14, Olympia, Wash.
Southern Sash & Door Jobbers Association, winter meeting, November 21-23, Americana Hotel, Miami Beach, Fla.

DECEMBER

Western Forestry & Conservation Association, December 10-12, Palace Hotel, San Francisco, Calif.

EDERER



Lathe down time for chucking —no more than 10 seconds!

The EDERER OVERHEAD LATHE CHARGER is "job-engineered" to pick up a peeler—pre-center it to lathe chucks—and move it forward to exact chucking position. In a five-hour clocked operation, average chucking time was only 18 seconds after peeler knife was retracted! In this same five-hour period, the charger handled 75 102-inch long peelers of average 36-inch diameter.

Equally efficient is the floor-mounted lathe charger, designed for use where overhead clearance is restricted.

Both overhead and floor-mounted chargers are hydraulically operated from one set of controls, located for the operator's convenience. With the two models to choose from, you can have a charger to fit your exact requirements. Either charger can be supplied in a simpler adaptation to load your barker too.

Write for EDERER Lathe Charger Bulletin V-106.

EDERER "job-engineering" helps expand production in an expanding industry.

331V58

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PLYWOOD EQUIPMENT

SINCE 1901 "JOB-ENGINEERING" CRANES AND HEAVY EQUIPMENT

GREENLEE SPECIALIZED MACHINES PRODUCE GREATER PROFITS

NEW GREENLEE FIBRE BOARD PANEL MACHINE

- Handles Panels as Large as 13 ft. x 25 ft.
- Splits With Extreme Accuracy
- Less Down-Time For Maintenance and Set-Up

Entirely new in concept and design this Greenlee machine was recently installed in the plant of one of the largest producers of wood and wood fibre products. The first section rips the panel into strips 2 to 4 feet wide; the second, cuts the strips into 2 or 3 pieces as desired. On the first section, feed chain beams are used to transport the stock. On the second, a reciprocating pusher mechanism is employed. All adjustments are made from the overhead catwalks. Each cutting unit is powered by a separate motor. If you have cutting problems involving large panels invite Greenlee to help you solve them. Write today.

Put a Profit in Your Woodworking With Greenlee Machines

WOODWORKING MACHINERY MANUFACTURERS' ASSOCIATION WMMA

GREENLEE BROS. & CO.

1867 TWENTY-FIRST AVE.
ROCKFORD, ILL.

Link-Belt SS chain proves equal to the punishing service of log handling

STACKS OF 8-FT. LOGS are carried smoothly by this double strand storage conveyor of Link-Belt SS Chain at mill of Weyerhaeuser Timber Co., Longview, Washington.

Easily withstands impact, abrasion and heavy loads

Dependable performance on heavy-duty jobs like that at left has won wide favor for Link-Belt SS bushed chain.

Exceptional Durability

With its great strength and stamina, this steel fabricated chain easily absorbs repeated impact loads . . . shrugs off abrasive and corrosive conditions that often cause early failure of ordinary chain. This ruggedness assures top operating economy by reducing maintenance, replacements, and conveyor shutdowns.

Many design refinements

Long-life design of Link-Belt SS bushed chain incorporates sidebars of selected bar steel, accurately formed and machined for tight press fit of pins and bushings. The latter are made from hardened steel and positively locked against rotation in sidebars.

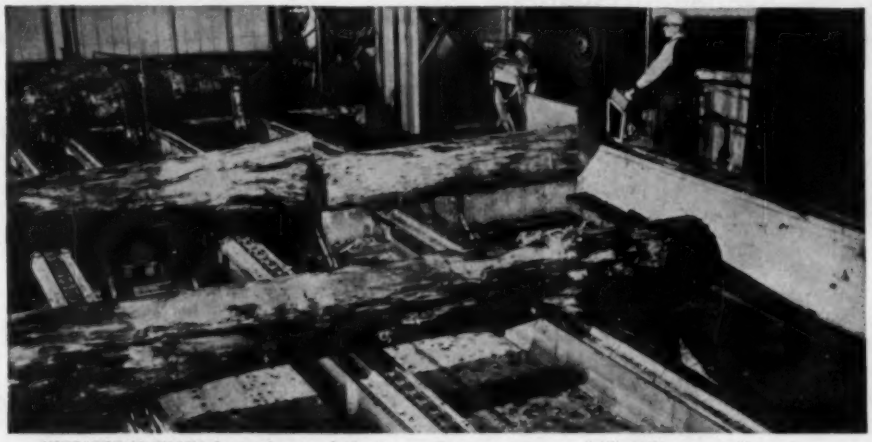
In addition, Link-Belt offers a broad selection of attachments which allow economical adaptation to a variety of conveying and elevating needs.

Joint surfaces are made extra hard to prolong chain life

Throughout the lumber and pulp and paper industries, Link-Belt SS chain is setting amazing endurance records in the face of highly abrasive conditions. This success stems from a combination of design refinements and accurately controlled manufacturing processes. And one of the most important is extra hard joint surfaces.

These tough, smooth surfaces—up to five times harder than standard malleable—resist wear resulting from day-in, day-out service involving heavy shock loads and constant exposure to cutting action of abrasive particles. They repel gritty materials . . . prevent troublesome packing.

Another factor that adds to the endurance of Link-Belt SS chain is its extra-thick steel sidebars. They present a greater stability and, together with hardened steel pins and bushings, provide the strength needed to prevent distortion under continuous heavy loads. Also, hardened steel bushings minimize wear from sprocket tooth action.



VERSATILE SS CHAIN is used extensively in wood rooms at several Weyerhaeuser mills . . . as inclined and horizontal log haul conveyors and on log decks to and from breakdown machinery.

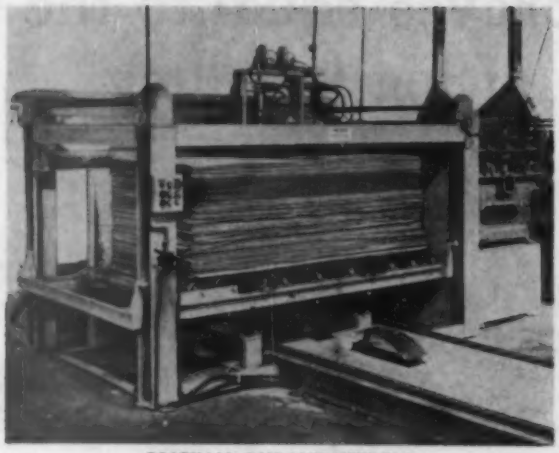
HEADQUARTERS for chains, sprockets and other Link-Belt products is your nearby Link-Belt factory branch store or authorized stock-carrying distributor. Refer to the Yellow Pages of your local Phone Directory.

LINK-BELT

CHAINS AND SPROCKETS

14,002

LINK-BELT COMPANY: To Serve Industry There Are Link-Belt Plants, Sales Offices and Factory Branch Stores at San Francisco 24, Los Angeles 22 (Montebello), Seattle 4. Sales Offices and Factory Branch Stores at Portland 10, Spokane 10, Salt Lake City 1. Stock Carrying Distributors in Principal Areas.



ORIGINAL DURAND FEEDER*

PROGRESS—

Is evidenced by continuing improvements in design, operation, control, and capacity — with reductions in cost.

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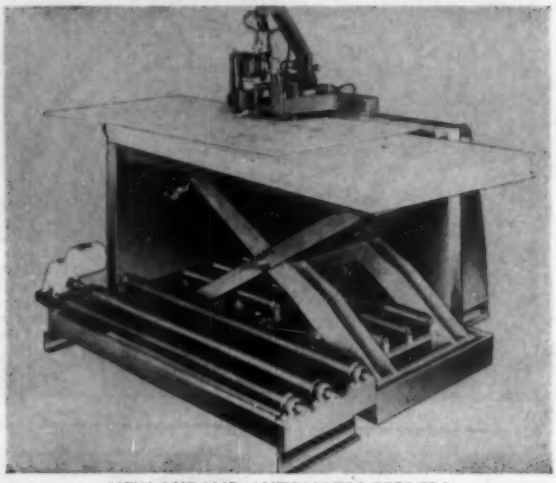
Now Offers a New Panel Feeder

For: Sizing Saw Installations
Sander Installations
Remanufacturing



NEW DURAND AUTOMATIC FEEDER*

*U.S. Patents Granted

FEATURES:

- No adjustments for feeding panel loads of different lengths or widths
- Accurate load placement not necessary
- Each panel is held against straight edge while being fed
- Patented safety feature prevents panel damage
- Panel stack can be loaded in feeder from end or either side

SANDER FEEDER MODEL FULLY AUTOMATIC WITH POWER LOADING SELLS FOR UNDER $6,500.00

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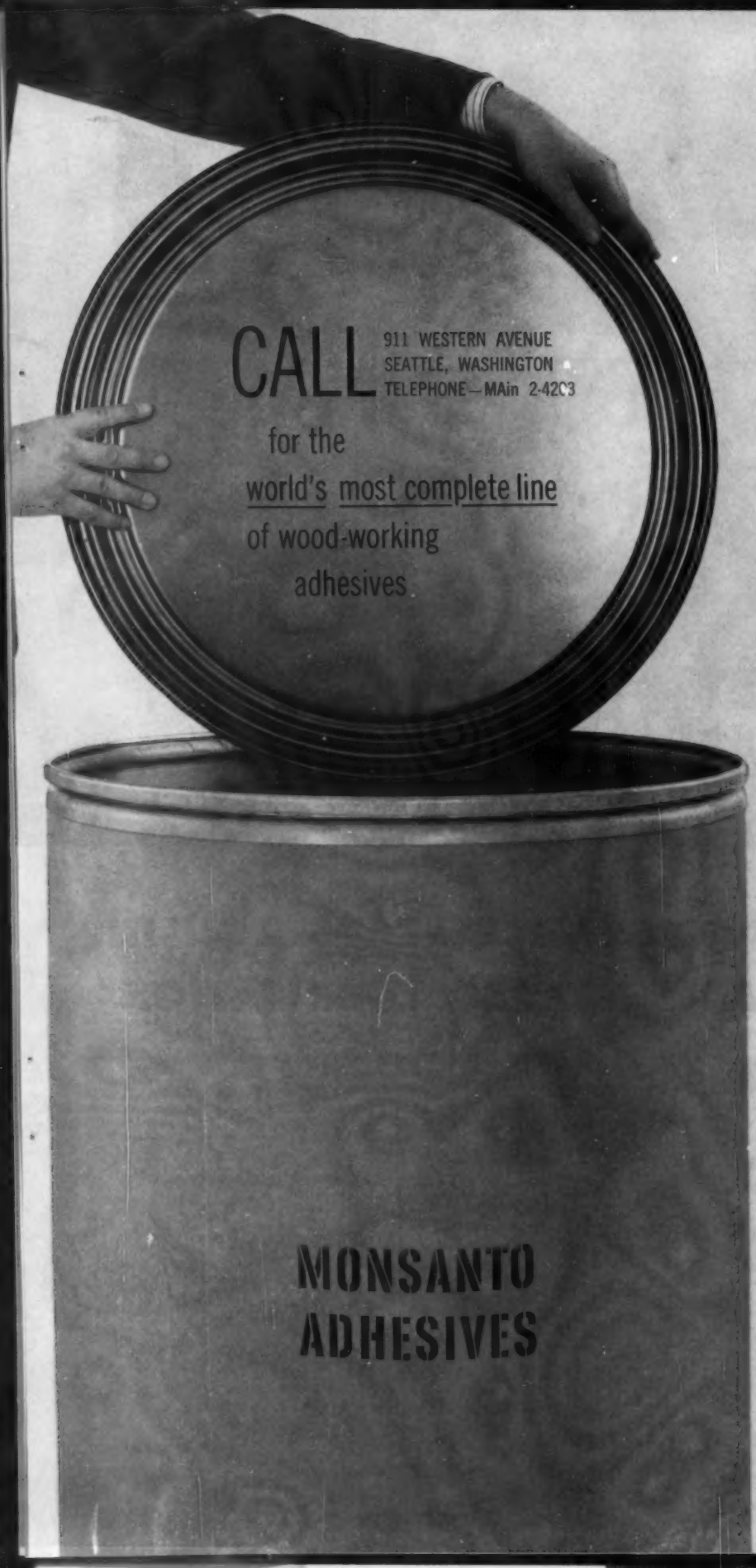

PHENOLIC in liquid or powder form for exterior plywood, hardboard, particle board, and other wood assemblies that are subject to extreme exposure conditions.

UREA comprehensive line of powder and liquid resins for plywood, particle board, lumber edge gluing, veneer splicing and veneer patching.

RESORCINOL fast setting, completely durable adhesives used in ship's keels, laminated rafters, prefabricated housing, plywood patching, etc.

MELAMINE comparable to phenolics and resorcinols but light in color. Used to fortify urea formulations and for lumber edge gluing, end gluing, veneer edge gluing and scarfing, plywood scarfing and patching.

BLOOD-BLEND AND BLOOD-RESIN BLEND used for fast, economical production of durable interior grade plywood by hot press methods.

SOYBEAN & SOYBEAN BLEND unexcelled for production of interior grade plywood by cold press and NO-CLAMP methods.

CASEIN supplied as dry powders for assembly gluing, laminating, prefabricated housing operations, etc.

For full information about Monsanto adhesives, call or or write to Monsanto Chemical Company, Plastics Division, 911 Western Avenue, Seattle 4, Washington.

Monsanto

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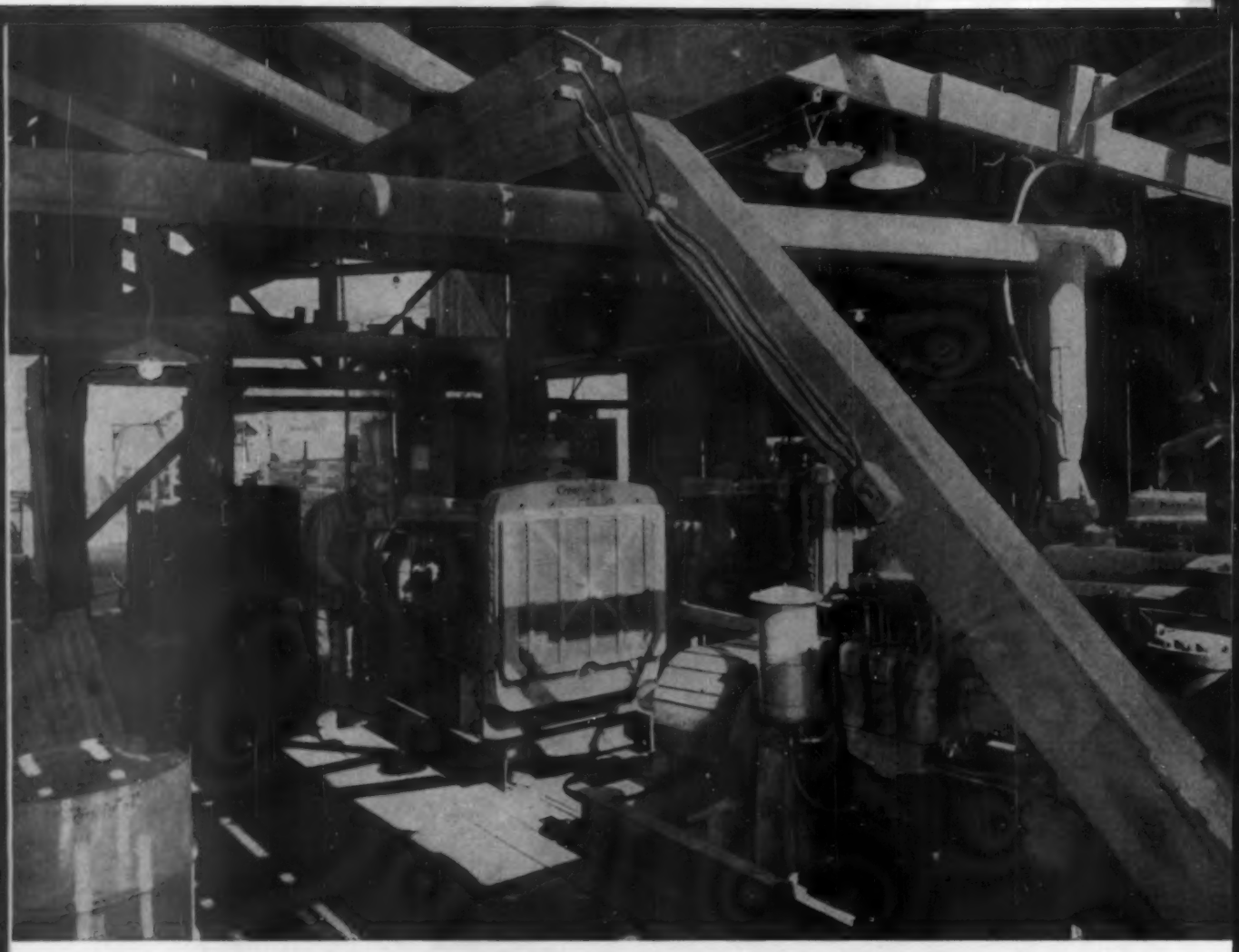

ROUTINE MAINTENANCE STAYS ROUTINE WITH RELIABLE TEXACO LUBRICATION

Scheduled overhauls on these hard-working diesels keep proving that lubrication with Texaco Ursa Oil Heavy Duty keeps the rings free, minimizes the formation of harmful deposits, and prolongs the service life of engine parts by reducing wear. It's dependable lubrication like this that keeps equipment on the job and maintenance costs low.

Economical, reliable performance, which gives more power from less fuel, has made Texaco Ursa Oil Heavy Duty the choice of this California lumber firm for the past 12 years.

Wherever Texaco Ursa Oils are on the job, they give the same money-saving advantages. There is a complete line of these great oils. A Texaco Lubrication Engineer will gladly suggest the right one for your operation. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write:

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EDITOR'S PAGE

These

Board Industries

are Becoming Big Business

- They have problems
- They are growing
- Many new products
- More integration

PRODUCT QUALITY, control of quality, constant product development and merchandising are common problems facing the steadily growing wood-particle and wood-fiber panel board industries.

Potential markets, with the increased combination uses, for hardboard, insulation board and particle board, appear unlimited in view of the growth pace and research now extending in the direction of new construction forms and molded applications.

PARTICLE BOARD producers, particularly, are in urgent need of an effective organization to determine standards and grades; to develop quality control methods and to conduct effective promotion. Exploding from a handful of captive core plants for furniture manufacture in 1954, to over 50 plants in U. S. today—and with nearly as many different products—has left a trail of confusion that only a well financed and strong association can straighten out. Apparent major markets are now in the construction fields. In their original form, overlaid with paper, plastics or veneer and using waterproof and durable binders, these panels can offer versatile building materials with many advantages.

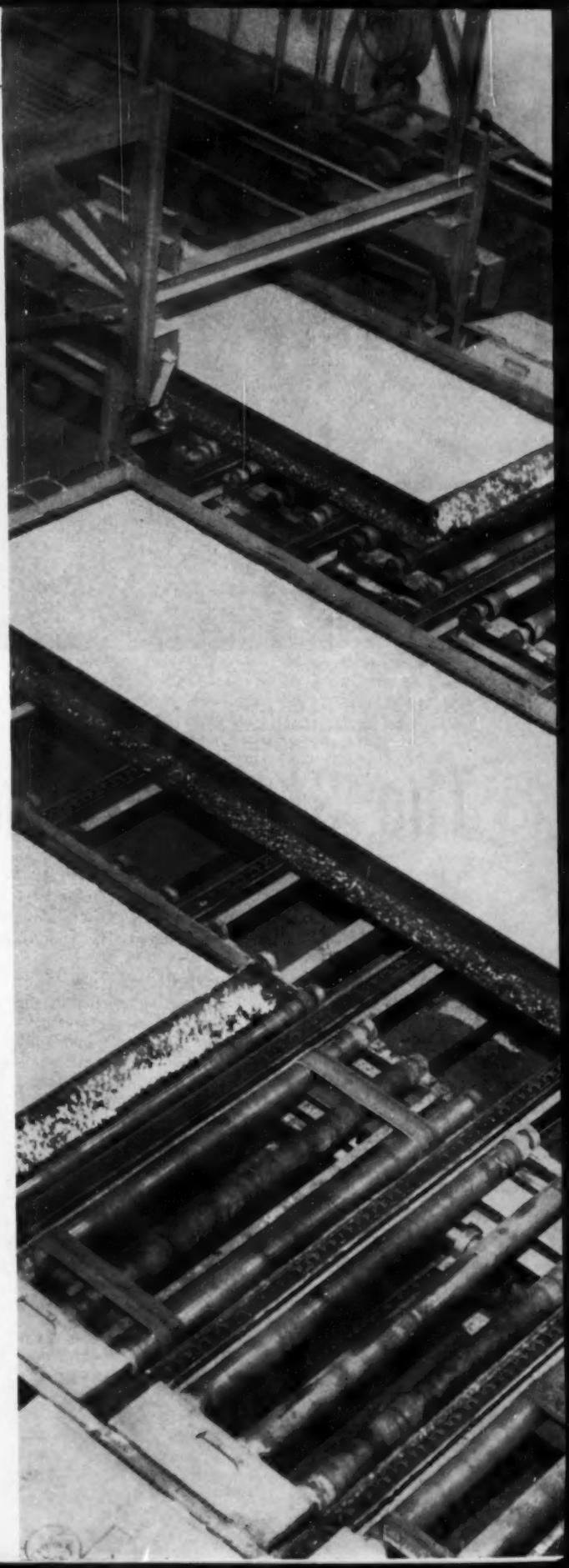
No longer an inexpensive utilization unit, required minimum plant investment for satisfactory volume production of particle board is near $1 million.

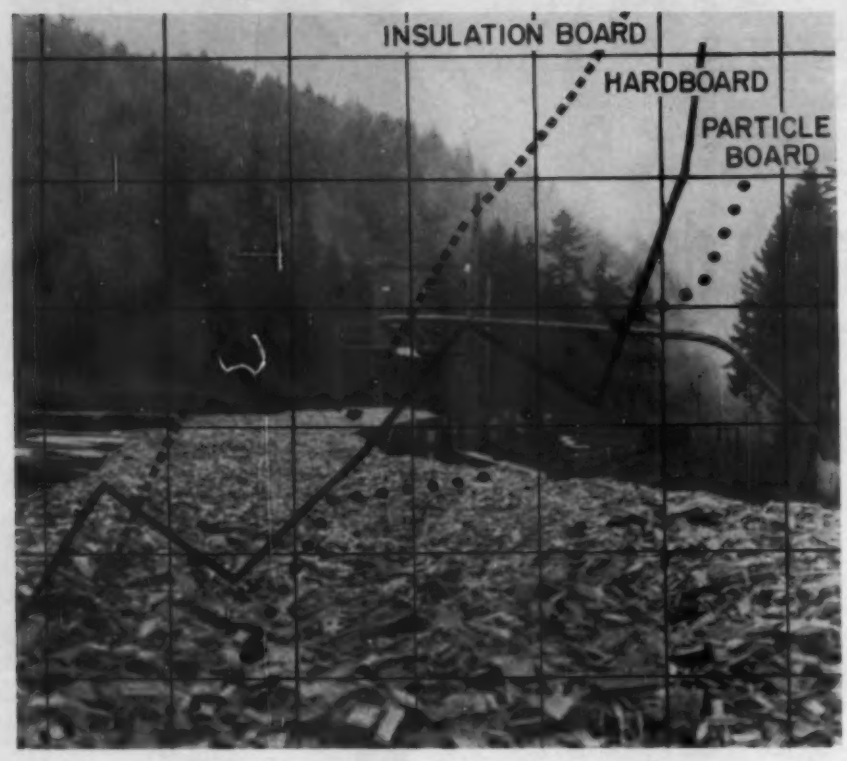
HARDBOARD and INSULATION BOARD plants have always require substantially larger capital outlays for plant facilities—thus have remained relatively fewer in number, better organized and stabilized as industries.

Keeping a steady pace in new product development has sparked highly competitive markets. Expansion into more and more facets of construction applications is significant for both hardboards and insulation boards.

Prefinishing, manufactured surfaces, new and interesting overlays, single roof-ceiling insulation board panels, custom manufacturing, movable walls and component adaptations are creating new markets for both types of panels.

Beset with an increase volume of lower cost imports, these U. S. board manufacturers face many difficult problems. However, plants continue to expand; new plants enter the field at their regulated tempo, and the wood using industries appear, principally due to economic forces, to be marching steadily toward both more integrated plants and their own integrated product development. Board industries are becoming big business.





EXCLUSIVE REPORT

The State of The Board Industry

What has happened? Where it is headed?

By WAYNE C. LEWIS, Engineer, Forest Products Laboratory,
Forest Service, U. S. Dept. of Agriculture, Madison, Wisc.

THE YEAR 1957 WAS SIGNIFICANT for the manufacture and use of the wood-base fiber and particle panel materials, of which insulation board, hardboard, and particle board are the most prominent. It is true that most building board products felt the same softening in demand the last part of the year that was evident in so many commodities. This, together with lagging development of uses for particle board, has created some uncertainty as to the future for that product.

The increase in the number of new manufacturers of particle board during the past few years continued, with at least 12 more starting production during the year. In addition, there are 8 or more plants under construction. Even though the insulation board and hardboard industries have been established for a much longer time than that for particle board, there have been significant changes in these industries both in production facilities and in kinds and types of products.

There are specific trends established in the insulation board, hardboard, and particle board industries and progress in the development of uses for the different products. Uses are most important. The extent to which uses can be developed will determine more than any other factor, the growth of board manufacture.

PRODUCTION HAS CONTINUED to expand during the years since the end of World War II. Insulation board, hardboard, and particle board have maintained and enhanced their relative positions in the forest products field. Costwise the building boards have stayed competitive with other materials. Increases in labor rates, which affect the in-place cost of materials, have further improved the competitive position of insulation boards, hardboards, and particle boards along with all other panel materials.

Indicative of the growth of these board industries in the last decade are the following production statistics for the United States for the year 1956 as compared to those for 1948. Values for insulation board are presented on the basis of equivalent ½-inch thickness and hardboard on the basis of equivalent ⅛-inch thickness, as has been the practice. Particle board values are presented on the basis of equivalent ⅜-inch thickness.

Production of insulation board, hardboard and particle board in thousands of square feet:

Year	Insulation Board (½" basis)	Hardboard (⅛" basis)	Particle Board (⅜" basis)	Total
1948	2,386,955	957,080	.....	3,344,035
1956	2,972,593	1,498,193	570,000	5,040,786
% change	+25	+65	....	+51

For practical purposes, production and use can be considered equal, since the small amounts of board imported and exported nearly balance and are not important in terms of the overall totals. The above increase indicates that, in comparison with other forest products, insulation board, hardboard, and particle board have either maintained or improved their position of relative importance.

INSULATION BOARD growth use has been steady, though not spectacular, during the past several years. Nearly all of the insulation board is used in the construction industry, so, as the building industry goes, so goes the insulation board industry. The following tabulation by percentages for 1956 for insulation board by types explains the principal uses.

Type	% of Total
Building board, natural	5.5
Lath for plaster base	.1
Roof insulation board	17.2
Insulating roof deck slab	3.3
Insulating fiberboard formboard	1.0
Interior board, factory-finished	30.4
Sheathing board	26.8
Insulated siding base	8.5
Shingle-backer	2.7
Thinboard (7/16 inch or less)	1.8
Other	2.7
	100.0

Insulating roof deck slab, insulating fiberboard formboard, and shingle-backer are all products that have been developed by the industry in recent years as a part of its diversification program. Lath for plaster base, which in 1948 was about 5½% of the total, has declined to the point where it is unimportant.

The insulating roof deck slab is a composite of ½-inch factory-finished interior board laminated to sufficient thicknesses of sheathing-quality board to make decking of 1½-, 2-, or 3-inch thickness. The interior-finish board provides the surface for the ceiling for exposed beam construction; the 2- by 8-foot panels in 1½-, 2-, and 3-inch thicknesses respectively support roof loads over spans of 24, 32, and 48 inches. The heat insulation quality of the 2- and 3-inch thick roof decks is sufficient to meet the needs for thermal insulation in all climates. Where required, a vapor barrier is incorporated in the bond line between the interior board and the first ply of sheathing-quality board.

Insulating fiberboard formboard is used usually in commercial buildings, in conjunction with lightweight poured roof decks, wherein the insulation board of sheathing quality fits between bulb-T sections and spans the roof joist system. It serves as the bottom of the form for the poured deck and is left in place after the deck is poured and cured to contribute to both the structural adequacy and the thermal insulation of the deck construction.

Shingle-backer is sheathing-quality insulating board, usually ⅜" thick, that is nailed to the framing of a house through insulating board sheathing to serve as the backing for coursed shingle siding. The shingle-backer strips provide the deep shadowline of double-coursed shingle construction and added thermal insulation. Special type nails provide adequate holding power for the shingles when they are driven through the shingle backer and sheathing. Nailing strips are eliminated.

Suppression of sound reflectance has become increasingly important for such commercial buildings as offices, stores, and schools, and is beginning to be considered by architects and builders for homes. This has been recognized by the insulation board manufacturers. They have developed many new patterns of acoustical tile that offer pleasing effects to harmonize with home and other furnishings. The industry has also changed its manufacturing practice so that all interior finish board, including acoustical tile, is furnished only with a flame-resistant paint finish.

These and other improved products show how the insulating board industry has kept ahead in the competition for markets. Activity in that regard in 1957 was an extension of the use of the newer products reflected in the production statistics for 1956.

HARDBOARD HAS had quite a transition during the postwar years, and it can be described best by the word "diversification." Prior to the end of World War II, there were only 2 manufacturers, and one of those was small. After 1947 there were many new plants established, and productive capacity was more than doubled. There are now 16 plants manufacturing hardboard; or hard-pressed particle board, which is used in the same market as hardboard. Additional plants are under construction, and existing plants are increasing production capacity.

It was the practice formerly for hardboard producers to manufacture two basic products, a standard and an oil-tempered quality with a screen-back as was necessary when boards were hot-pressed from a wet mat. Hardboard was often called "the versatile panel material of 1,000 uses," but it had to be converted to those uses from large panels of 2 types of the thicknesses manufactured.

To the original basic products have been added a utility board of lower density, hardboards with both faces smooth (S-2-S), additional thicknesses, special boards such as those with high impact resistance for special purposes, and hardboards planed or sanded to caliper. A whole line of decorative surfaced hardboards is now produced by embossing to simulate leather, etched wood, ceramic tile, and basket weaves, or by grooving and punching to produce striated and perforated surfaces. Hardboard is being factory-finished to a much greater extent than formerly. Highly reflective enameled and lacquered boards are available either from the prime manufacturers or secondary manufacturers. Hardboard with a printed wood grain to simulate fine cabinet woods is available in large sheets, in common paneling, widths, or cut to size for almost any use.

The product is being used in increasing amounts as exterior siding, underlayment, interior wall surfacing, flush door facings, and other applications in house construction. It has captured important industrial markets, such as radio and television cabinet panels and backs, automobile door panels and sun visors, and dust dividers, drawer bottoms, and backs of furniture case goods. Tempered hardboard is required for exterior siding and is available with or without factory-applied paint prime coat in strips for lap siding or in grooved panels for board and batten effects.

Hardboard production continues to be about equally divided between untempered and tempered grades. Distribution is likewise divided. About one-half of the total reaches the user through retail lumber yards and the rest through industrial sales. All manufacturers have increased greatly the amount of post-manufacturing operations. These operations include cut-to-size, surface treatments, planing and sanding to surface or thickness requirements, and paint and lithographed surface finishes.

PARTICLE BOARD has undergone the greatest change; hence where the greatest confusion exists. Not only have many new plants been completed, but several existing ones have increased production. Some plants are experiencing financial difficulty. Views on the industry range from the most pessimistic—that it is much overproduced and that the future will be most difficult—to the most optimistic—that this period is at a natural plateau for a new product

(Continued on page 82)

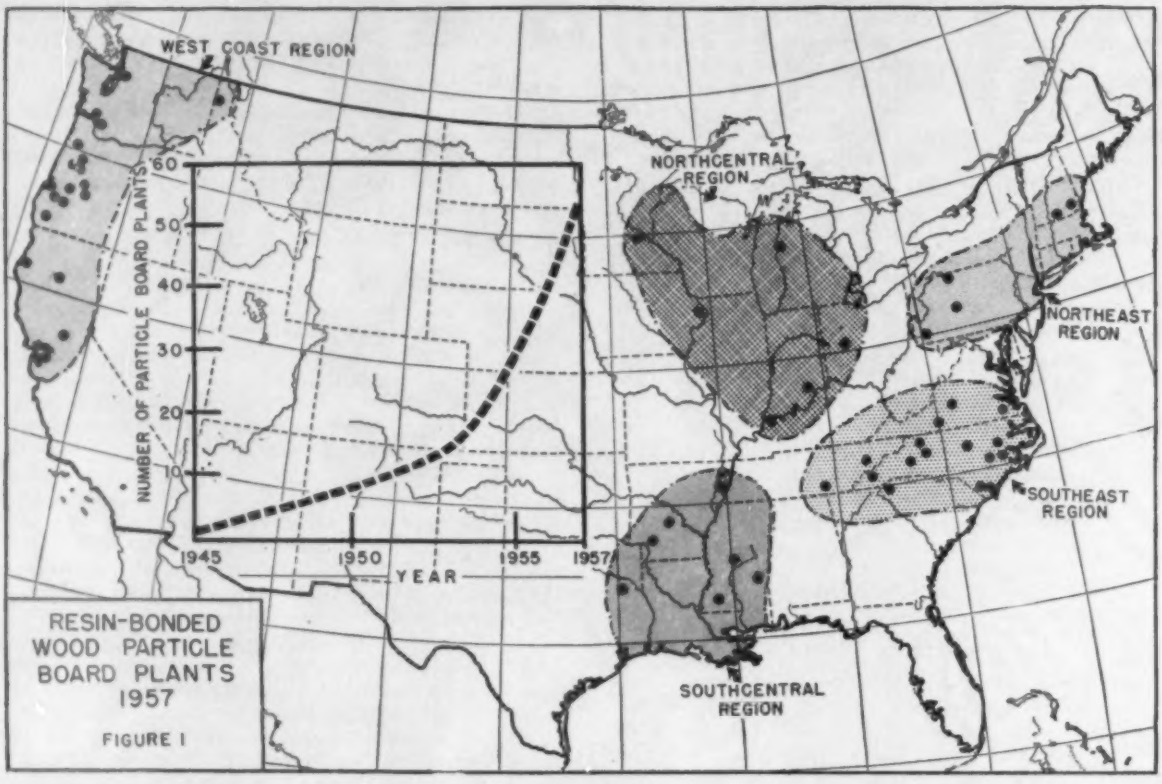


FIGURE I

Manufacturers provide the facts about

This Particle Board Industry

By WILLIAM H. REID, Associate Professor
of Forest Utilization, West Virginia University

THE PARTICLE BOARD INDUSTRY outlined in this report is unique in that it is the youngest of the wood using industries and had its establishment in the United States since World War II. It has had the most dynamic growth of any of the wood using industries during the past four years and it is further characterized by using a raw material that in the past has often been treated as a waste or burned as fuel. However, the particle board has not been developed for new uses of wood, but rather to compete with established wood products such as plywood, hardboard paneling and solid wood core.

The estimated annual production of particle board for the years 1955, 1956 and 1957 is respectively 38,051,000 square feet, 116,902,000 square feet and 200,276,000 square feet (¾-inch basis). Approximately 70 per cent of the total production of particle board is produced in two regions; West Coast and Southeast.

This report analyzes, primarily in table form, the data from a mail questionnaire directed to manufacturers of particle board located in the United States. Data included refers to the industry producing machined wood particles by use of a chipper, hog or shaver, mixing with resin and forming them under heat and pressure into panels of uniform thickness.

Questionnaires were prepared and reported by the Forest Products Marketing Class*, of the Division of Forestry, West Virginia University and information placed on McBee keysort cards for greater ease in data analysis. Reliability may be gauged by comparing estimated total production for the year to total amount of production represented by each table.

The questionnaire was prepared with the purpose of obtaining information concerning raw material, production methods, product thickness, end use and marketing methods used by the particle board industry in United States and Canada.

They were mailed to 55 particle board plants located in the United States and Canada. Returns of the questionnaire were received from 39 particle board plants or approximately 70 percent of the particle board plants known to be in operation or under construction.

*Members of Class: C. A. Goughnour, T. B. Hill, J. E. Lantz, W. B. Leichter, G. J. Peters, J. E. Pinto, R. T. Reed, W. S. Shuttleworth, and B. W. York.

Particle Board Production By Year and Region, 1955-1957

Region	1955 — PRODUCTION Rptd. M Sq.Ft.†	Est. M Sq.Ft.†	Ttl. M Sq.Ft.†	% of Ttl.	Rated Cap. M Sq.Ft.†	Prod. Rated Cap. %	1956 —PRODUCTION Rptd. M Sq.Ft.†	Est. M Sq.Ft.†	Ttl. M Sq.Ft.†	% of Ttl.	Rated Cap. M Sq.Ft.†	Prod. Rated Cap. %	1957 — PRODUCTION Rptd. M Sq.Ft.†	Est. M Sq.Ft.†	Ttl. M Sq.Ft.†	% of Ttl.	Rated Cap. M Sq.Ft.†	Prod. Rated Cap. %
North-	(2)*		(2)*				(2)*		(2)*				(3)*	(1)*	(4)*			
East	1,206	----	1,206	1.5	4,833	25.0	1,374	----	1,374	1.2	4,833	28.4	4,511	333	4,844	2.4	11,433	42.3
North	(2)*	(3)*	(5)*				(3)*	(3)*	(6)*				(3)*	(3)*	(6)*			
Central	4,607	5,300	9,907	12.0	14,713	67.3	5,440	5,655	11,095	9.5	15,210	72.9	5,347	6,216	11,563	5.8	15,210	76.0
South-	(4)*		(4)*				(8)*	(1)*	(9)*				(10)*	(3)*	(13)*			
East	8,720	----	8,720	10.5	14,663	59.5	15,315	1,950	17,265	14.7	47,246	36.5	39,165	7,310	46,475	23.2	94,446	49.2
South	(1)*	(1)*	(2)*				(1)*	(2)*	(3)*				(1)*	(3)*	(4)*			
Central	6,186	2,000	8,186	9.8	14,889	55.0	7,147	8,400	15,547	13.3	24,889	62.5	8,006	13,213	21,219	10.6	32,889	64.5
West	(2)*	(4)*	(6)*				(7)*	(2)*	(9)*				(8)*	(7)*	(15)*			
Coast	4,591	45,747	50,338	60.6	83,747	60.	27,114	39,030	66,144	56.6	99,047	66.8	39,252	63,280	102,532	51.2	163,280	62.7
	(1)*		(1)*				(1)*		(1)*				(2)*		(2)*			
Canada	4,694	----	4,694	5.6	6,000	77.3	5,477	----	5,477	4.7	6,000	91.2	13,643	----	13,643	6.8	22,000	62.0
	(12)*	(8)*	(20)*				(22)*	(8)*	(30)*				(27)*	(17)*	(44)*			
TOTAL	30,004	53,047	83,051	100	138,845	59.8	61,867	55,035	116,902	100	197,225	59.3	109,924	90,352	200,276	100	339,258	59.0

Number of Particle Board Plants. †¾" Basis.

ESTIMATED PRODUCTION of particle board by region, converted to a ¾" thickness, for the three year period 1955-1957 was: 83,051,000 square feet, 116,902,000 square feet and 200,276,000 square feet. Over 70% of the particle board manufactured in the United States was produced in two general regions, the West Coast and Southeast. Particle board plants located in the West Coast region produced over 50% of the total. During 1955 the plants located in the West Coast region produced approximately 60% of the total for the United States and Canada. During 1956 they produced approximately 56% of the total and during 1957 approximately 51%. However, this data indicates that the plants located in the Southeast region have been increasing their percentage in relation to the total annual production. During 1955 they produced approximately 11%, 1956 approximately 15% and during 1957 approximately 23%.

TOTAL PARTICLE BOARD produced in 1956 amounted to 116,902,000 square feet (¾" basis) and the rated capacity of the particle board plants totaled 197,225,000 square feet (¾" basis). The percentage of production to the rated capacity amounted to approximately 59%. There was indicated a variation in production to rated capacity among the regions from 28% to 91%. Also indicated was a variation within the regions for the years reported. This variation is due in part to the fact that in some cases where the plants were in production for only a part of the year, the rated capacity of these plants was based on a full year's production.

Growth in Plants by Regions

Region	YEAR '45	'46	'47	'48	'49	'50	'51	'52	'53	'54	'55	'56	'57	'58	Ttl.
Northeast	1	--	--	--	--	--	--	--	--	--	1	1	1	--	4
North Central	--	--	1	1	1	--	--	1	--	--	--	2	--	--	6
Southeast	--	--	1	--	--	--	--	--	2	2	1	3	4	--	13
South Central	--	--	--	--	--	--	1	--	1	--	1	--	2	--	5
West Coast	--	1	--	--	--	--	2	--	--	--	4	2	5	--	14
Canada	--	--	--	--	1	--	--	--	--	--	--	1	--	--	2
Total Years	1	1	2	1	2	--	3	1	3	2	7	9	12	--	44
Accum. Total	1	2	4	5	7	--	10	11	14	16	23	32	44	--	

PARTICLE BOARD MANUFACTURE in the United States started in June 1945. From that date, until 1955, there was an average of approximately two particle board plants starting production each year and since January 1955 there has been an average of approximately ten plants starting production each year. The increase in the number of particle board plants is shown in the table at left.

Types of Particles

Region	Shavings & Flakes M Sq.Ft.†	Hogged or Chipped M Sq.Ft.†	Hammermill M Sq.Ft.†	Ttl. M Sq.Ft.†	% Ttl.
Northeast	....	1,373	....	1,373 (3)*	1.4
North Central	250	5,320	....	5,570 (7)*	5.6
Southeast	80	17,185	....	17,265 (1)*	17.5
South Central	7,147	....	....	7,147 (9)*	7.2
West Coast	19,711	37,736	4,500	61,947 (1)*	62.8
Canada	1,643	3,834	....	5,477 (23)*	5.5
TOTAL	28,831	65,448	4,500	98,779	100.0
% TOTAL	29.2	66.3	4.5		

*Number of Particle Boards. †¾" Basis.

WOOD PARTICLES produced by the hog, chipper and hammermill accounted for approximately 70% of the wood particles used. Shavings and flakes accounted for the remainder. The sample indicated that the Northeast, North Central and Southeast regions used approximately 100% hogged or chipped particles. The one mill reporting from the South Central region used 100% shavings or flakes.

Source of Raw Material

REGION	Furn. Plant M Sq. Ft.†	Saw-mill M Sq. Ft.†	Dim. Mill M Sq. Ft.†	Flrg. Mill M Sq. Ft.†	Veneer Plant M Sq. Ft.†	Dr. Plt. Pencil Slat M Sq. Ft.†	Ttl. M Sq. Ft.†	% Ttl.
Northeast	95	570	285	----	----	----	(1)* 950	1.2
North Central	----	2,352	----	----	588	----	(1)* 2,940	3.6
Southeast	10,691	----	----	1,100	2,199	----	(7)* 13,990	17.4
South Central	----	7,147	----	----	----	----	(1)* 7,147	8.9
West Coast	----	24,580	----	----	22,000	3,367	(6)* 49,947	62.1
Canada	----	5,477	----	----	----	----	(1)* 5,477	6.8
TOTAL	10,786	40,126	285	1,100	24,787	3,367	80,451	100.0
% Total	13.4	49.9	.4	1.3	30.8	4.2	----	100.0

* Number of Particle Board Plants. †¾" Basis.

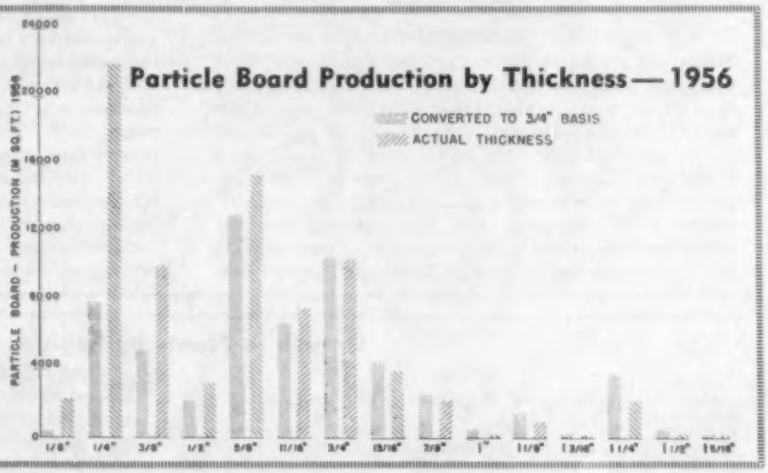
SAWMILLS PROVIDE approximately 50% of the wood raw material; veneer plants 30% and furniture plants provide approximately 14%. The wildest divergence from this general trend is noted in the Southeast Region where approximately 75% of the wood raw material is derived from furniture plants and in the South Central Region and Canada were 100% comes from sawmills.

Particle Board Thicknesses Produced By Region (1956)

REGION		THICKNESS (INCHES) 1/8 M Sq.Ft.	1/4 M Sq.Ft.	3/8 M Sq.Ft.	1/2 M Sq.Ft.	5/8 M Sq.Ft.	11/16 M Sq.Ft.	3/4 M Sq.Ft.	13/16 M Sq.Ft.	7/8 M Sq.Ft.	1 1/8 M Sq.Ft.	1-3/16 M Sq.Ft.	1 1/4 M Sq.Ft.	1-5/16 M Sq.Ft.	1 3/8 M Sq.Ft.	1 1/2 M Sq.Ft.	1 M Sq.Ft.	Ttl. M Sq.Ft.	Ttl. %
North-	3/4" Basis-	----	-----	-----	84	583	284	250	----	18	----	158	----	----	----	----	----	1,377	2.3
East-----	Surface---	----	-----	-----	125	700	310	250	----	15	----	100	----	----	----	----	----	1,500	1.8
North	3/4" Basis-	----	100	-----	----	1,815	150	2,250	----	----	1,125	----	----	----	----	----	----	5,440	9.1
Central---	Surface---	----	300	-----	----	2,200	450	2,250	----	----	750	----	----	----	----	----	----	5,950	7.2
South-	3/4" Basis-	----	5	5	1,025	583	2,935	700	3,912	2,727	----	28	936	176	----	----	432	13,464	22.4
East-----	Surface---	----	15	10	1,552	700	3,202	700	3,587	2,338	----	18	562	101	----	----	324	13,109	15.8
South	3/4" Basis-	----	-----	-----	223	2,792	507	670	363	----	----	----	2,792	----	----	----	----	7,147	11.9
Central---	Surface---	----	-----	-----	335	3,350	335	670	335	----	----	----	1,675	----	----	----	----	6,700	8.1
West	3/4" Basis-	410	8,004	4,387	775	3,642	2,925	6,072	----	----	450	----	----	----	----	450	----	27,115	45.2
Coast-----	Surface---	2,457	22,012	5,910	1,021	4,370	3,191	6,072	----	----	300	----	----	----	----	225	----	48,558	58.6
	3/4" Basis-	----	-----	700	233	3,500	192	700	152	----	----	----	----	----	----	----	----	5,477	9.1
Canada---	Surface---	----	-----	1,400	350	4,200	210	700	140	----	----	----	----	----	----	----	----	7,000	8.5
	3/4" Basis-	410	8,109	5,092	2,340	12,915	6,793	10,642	4,427	2,745	1,575	186	3,728	176	----	450	432	60,020	
TOTAL	% Total--	0.7	13.5	8.5	3.9	21.5	11.3	17.7	7.4	4.6	2.6	0.3	6.2	0.3	----	0.8	0.7	-----	----
	Surface---	2,457	22,327	10,320	3,383	15,520	7,698	10,642	4,062	2,353	1,050	118	2,237	101	----	225	324	82,817	
	% Total--	3.0	27.0	12.5	4.1	18.7	9.3	12.8	4.9	2.8	1.3	0.1	2.7	0.1	----	0.3	.4	-----	----

SQUARE FOOTAGE of particle board by thickness and region are shown on two bases. This table indicates the square footage of particle board produced, converted to a ¾-inch basis and also actual surface area for each thickness class. The top figure in each region and thickness class is the amount produced on a ¾-inch basis and the bottom figure is expressed in surface measure.

Greatest cubic volume of particle board was produced in the ⅝-inch class; however, the greatest amount of particle board produced, based on surface measure, was in the ¼-inch class. (Note chart at right.)



Disposition of Particle Board

REGION	To Mfrs. M Sq.Ft.**	To Whslrs. M Sq.Ft.**	To Rtlrs. M Sq.Ft.**	Ttl M Sq.Ft.**	Ttl.
Northeast	961	413	....	1,374 (2)*	2.1
North Central.....	8,468	65	....	8,533 (9)*	12.8
Southeast 17,265		....	....	17,265 (1)*	26.0
South Central	3,015	3,685	....	6,700 (7)*	10.1
West Coast	6,691	19,965	457	27,113 (1)*	40.8
Canada	822	3,833	822	5,477 (25)*	8.2
TOTAL.....	37,222	27,961	1,279	66,462	100.0
% TOTAL	56.0	42.0	2.0		100.00

* Number of Particle Board Plants ** ¾-inch Basis

DURING 1956 approximately 56% of the particle board was sold directly to manufacturers; 42% to wholesalers and 2% to retailers. The method of distribution, however, varied between selected regions. Plants located in the North Central and Southeast regions disposed of their products directly to manufacturers. Approximately 74% of the particle board manufactured in the West Coast region was sold to wholesalers.

Particle Board Uses

REGION	Furn. M Sq.Ft.†	Doors M Sq.Ft.†	Paneling M Sq.Ft.†	Plywood M Sq.Ft.†	Underlayment M Sq.Ft.†	Unknown M Sq.Ft.†	Ttl. M Sq.Ft.†	% Ttl.
Northeast----	866	95	42	95	276	----	1,374 (2)*	2.0
North-Central--	9,983	359	1,086	441	13	----	10,882 (8)*	16.2
Southeast----	13,687	1,588	35	----	-----	----	15,310 (1)*	22.8
South Central--	1,787	----	-----	----	5,360	----	7,147 (7)*	10.6
West Coast---	7,463	180	8,918	750	8,525	1,191	27,027 (1)*	40.2
Canada--	1,095	----	274	1,369	2,191	548	5,477 (24)*	8.2
TOTAL--	33,881	2,222	10,355	2,655	16,365	1,739	67,217	100.0
% TOTAL-	50.4	3.3	15.4	4.0	24.3	2.6		

* Number of Particle Board Plants. †¾" Basis.

ACCORDING TO THE SAMPLE represented in Table above approximately 50% of the particle board manufactured in 1956 was utilized in the manufacture of furniture. Approximately 24% of the particle board was utilized as underlayment and approximately 15% was utilized in paneling.

This report indicated there is a possibility that additional markets for particle board as an underlayment might be developed in the Northeast, North Central and Southeast regions.

Is There Need for Industry Expansion?

"DO YOU SEE A NEED for the expansion of your particle board facilities in relation to present markets?" The question was answered by thirty particle board plants with an estimated total production for 1957 of 130,090,000 square feet (¾" basis). Tables at right summarize the answers.

The answer to need for expansion as developed by this question was inconclusive in that the total answers were evenly divided between "yes" and "no" for all regions. There were more conclusive reports for selected regions (See Table A). Over 70% of the plants reporting from the Northeast and South Central Regions indicated that there was a need for expansion of particle board facilities. Approximately 70% of the plants reporting from the North Central and Southeast Regions indicated that there was not a need for expansion. Plants reporting from the West Coast Region and Canada indicated that the need for expansion was indefinite.

Table B summarizes the answers to the question, "Do you see a need for the expansion of your particle board facilities in relation to present markets," based on those plants starting production during the period 1945 to 1954 and those starting production during the period 1955 to 1957.

TABLE A

Region	YES No. P/B Plants	% of Region	Prodctn. 1957 M Sq Ft**	% of Region	NO No. P/B Plants	% of Region	Prodctn. 1957 M Sq Ft**	% of Region	Total by Region
Northeast	3	75	2,394	50	1	25	2,450	50	4,844 (3)*
North Central	1	33	3,430	64	2	67	1,917	36	5,347 (10)*
Southeast	3	30	9,447	24	7	70	29,718	76	39,165 (2)*
South Central	2	100	16,339	100	..	0	....	..	16,339 (9)*
West Coast	5	56	16,525	32.2	4	44	34,227	67.4	50,752 (2)*
Canada	1	50	5,477	40	1	50	8,166	60	13,643 (30)*
TOTAL	15	50	53,612	41.2	15	50.	76,478	58.8	130,090

*Number of Particle Board Plants Reporting **¾" Basis

TABLE B

Particle Board Plant Starting Date	Number Plants Reporting Yes	No	Estimated Production (1957) Yes M Sq Ft*	No M Sq Ft*
1945 – 1954	7 (64%)	4 (36%)	24,713 (68%)	11,593 (32%)
1955 – 1957	8 (42%)	11 (58%)	28,899 (31%)	64,885 (69%)
TOTAL	15	15	53,612	76,478

*¾" Basis

Sixty-four percent of the plants starting production during the period 1945 to 1954 answered the question in the affirmative while 42% of the plants starting production during the period 1955 to 1957 answered the question in the affirmative. It is noted that the estimated average annual production per plant during 1957 for those plants starting production during the period 1945 to 1954 was 3,300,000 square feet (¾" basis) as compared with 4,935,000 square feet (¾" basis) for those plants starting production during the period 1955 to 1957.

Particle Board Research

Region	YES No. Plants	Production M Sq Ft*	%	NO No. Plants	Production M Sq Ft*	%	Region Total
Northeast	2	2,061	86	1	333	14	2,394
North Central	3	5,347	100	..	....	..	5,347
Southeast	7	20,037	51	2	19,128	49	39,165
South Central	3	19,219	100	..	....	..	19,219
West Coast	10	55,752	97	1	1,500	3	57,252
Canada	2	13,643	100	..	....	..	13,643
TOTAL	27	116,059	85	4	20,961	15	137,020

*¾" Basis

"ARE YOU ACTIVELY ENGAGED in particle board research at the present time." Approximately 85% of the plants answering this question indicated that they were actively engaged in particle board research also approximately 85% of the particle board produced was produced in plants engaged in particle board research. One exception to this general trend is noted in the Southeast Region, where approximately 80% of the particle board plants reporting were engaged in some form of research, however, these plants produced only one half of the particle board for that region.

Board Forming Processes

Region	Platen M Sq Ft**	Horizontal Extrusion M Sq Ft**	Vertical Extrusion M Sq Ft**	Total M Sq Ft**	% Total
Northeast	1,374	....	....	1,374 (2)*	1.2
North Central	8,025	....	3,070	11,095 (6)*	10.0
Southeast	3,411	8,729	5,125	17,265 (9)*	15.6
South Central	9,147	....	....	9,147 (2)*	8.3
West Coast	61,644	....	4,500	66,144 (9)*	59.9
Canada	5,477	....	....	5,477 (1)*	5.0
TOTAL	89,078	8,729	12,695	110,502 (29)*	
% Total	80.6	7.9	11.5		100.0

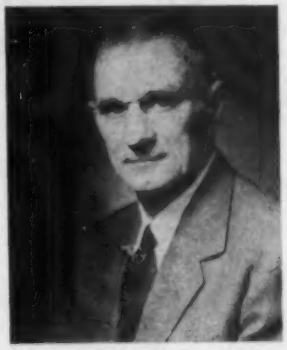
*Number of Particle Board Plants **¾" Basis

FOR ALL REGIONS approximately 80% of the particle board manufactured in 1956 was produced by the platen press and approximately 20% by extrusion. It is noted that this trend was reversed for the Southeast Region where approximately 80% of the particle board was produced by the extrusion process in the region.

Particle Board Can Have A Future

- Standards are of first importance if industry markets are to grow
- An effective industry association must be organized and maintained.
- Product development and market research are part of the job.

By CARL A. RISHELL, vice-president Timber Engineering Co., Washington, D. C.



CARL A. RISHELL, B.S.F. Penn State College School of Forestry was employed in private industry for 12 years and served with the Forest Products Division, N.R.A., before joining the NLMA in 1936 as chief of the hardwood division. In 1943 he assisted in establishing the Timber Engineering Company laboratory in Washington, D.C., which he headed as director of research until named vice-president in 1955. He is one of the original directors of the Forest Products Research Society.

THE PARTICLE BOARD INDUSTRY is in a peculiar position due to the fact that it is new, and prior to the recession it had not developed sufficiently for its ultimate stature to be analyzed. The period from 1954 through 1957 was marked by extreme optimism. By the beginning of 1958 some firms were curtailing production; a few had folded up; and others were on the brink of folding. Since January, and almost precisely in gear with the downward incline of general economics, fear for the future has intensified to a much greater extent than the actual situation justifies.

The need and the desire for particle board products is the same as it was one, two or three years ago. Technical progress in the development of better products and better plants has continued with little change in impetus. Even the relative competition between particle board and other products has remained practically stable. Therefore, if we are willing to accept the recession as temporary, we should review the industry without specific reference to the present economic condition and consider the past few months as no more than a temporary influence on the ultimate development of the industry.

The record shows that in 1954 only a few plants were in existence; by the end of 1955, 26 plants were built or building; and by December 1957, there were almost sixty plants. The reported prices paid by the owners for the plants ranged from $200,000 to over $4,000,000. A very rough estimate is that the average cost for building the plants is in the neighborhood of $600,000 to $1,000,000. To carry this further, roughly $50,000,000 has been invested in the particle board industry in plant equipment and buildings in the United States.

In the early days very small plants were constructed at relatively little cost. Some of these operations were successful. This, combined with the apparent simplicity of the process, encouraged many people to believe that here, at last, was a process that would utilize waste materials worthless for any other purpose. Further, it was a popular belief that the cost of constructing plants would be minor; that markets were plentiful; and that the technical problems of developing the necessary physical properties in the products could be easily solved at slight expense. Many potential participants were shopping for bargains and thought they had found one.

A businessman's common sense should have prevented many firms from falling into this pitfall. Of course, many persons and firms thought the situation through correctly and avoided most of the mistakes. Many existing plants have been well engineered, carefully built and will prove successful in operation. Unfortunately, a few plants were not properly planned or constructed, and the problems they have encountered have influenced the present attitude of uncertainty.

More important, some present day plants—even though excellently built—have not been backed up by adequate operating capital. Probably no other single factor has contributed so much to the present situation as these underfinanced organizations.

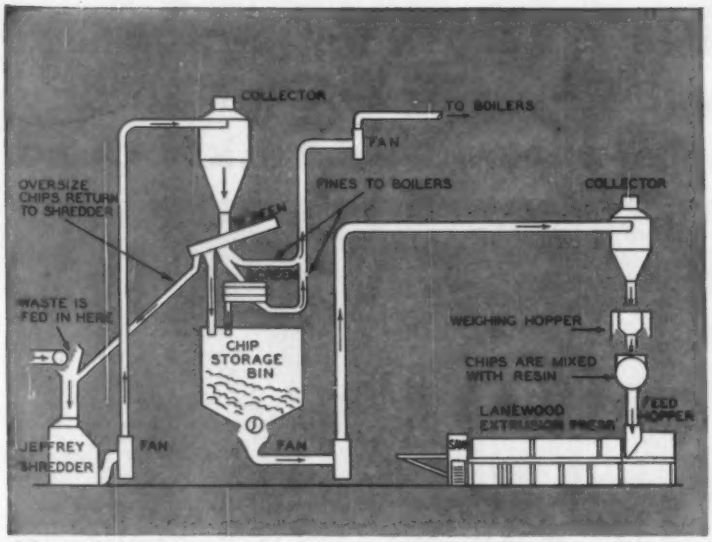
Misunderstanding and underfinancing have been largely responsible for the industry's lack of scientific advancement and its reluctance to provide adequate policing, quality control and industry standards for its plants and products.

TO BE SUCCESSFUL the industry must take measures to overcome several existing deficiencies. First, it must secure funds for technical development. Engineering firms and plant equipment companies will probably develop with their own funds the refinements in plants and equipment. Of course, these organizations must have sufficient inducement in construction and machinery contracts to permit the necessary developments in these fields.

However, plant and machine design businesses cannot be expected to do the necessary research for improving the physical properties of the products, nor can it be anticipated that suppliers of raw materials, such as wood and glue, will carry this load. The burden can find no resting place except upon the shoulders of the manufacturer of the product. Only when this obligation is accepted will a firm footing be established for the industry.

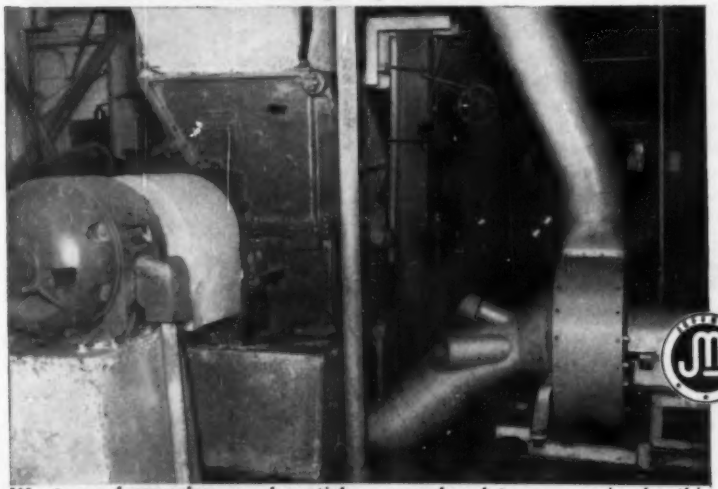
STANDARDS ARE first in importance. The particle board industry must obtain cooperation within its own ranks to establish adequate industry-wide minimum standards. To accomplish this at least one industry association and possibly more are needed. The administration of the minimum organization that could be effective will cost the industry at least $35,000 to $50,000

(Continued on page 45)



Schematic layout for particle board production at The Lane Company, Altavista, Virginia.

Wood waste in various sizes, shapes and species is fed into the hopper above the Jeffrey Shredder.



Waste and oversize wood particles are reduced to proper size by this Jeffrey Shredder, then conveyed by air to an overhead collector, screens and storage.

SUITABLY SIZED WOOD PARTICLES—

a Jeffrey Shredder meets this requirement for **Lanewood Particle Board**

● Core stock employed in fine furniture by The Lane Company is made of suitably sized wood particles and a thermosetting resin. A proper mixture is forced, under pressure, between heated plates in a continuous extrusion press. There it is compressed and cured. The resulting board is quite economical to produce; it compares with wood in machineability, is uniform in dimension, and has high screw-holding power.

Jeffrey Shredders, Wood Hogs and Pulverizers can be supplied to satisfy all kinds of reduction problems. Available catalogs describing the machines will help you to choose equipment to meet your requirements. For your copies, write The Jeffrey Manufacturing Company, 850 North Fourth Street, Columbus 16, Ohio.

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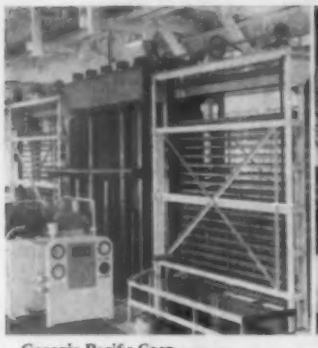
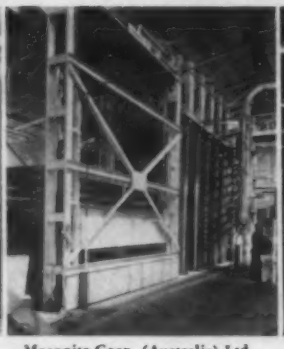
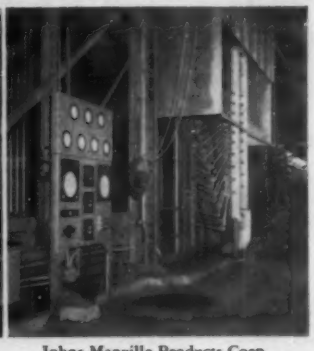


Georgia-Pacific Corp.
Coos Bay Timber Division
Coos Bay, Oregon
Product: S2S HARDBOARD



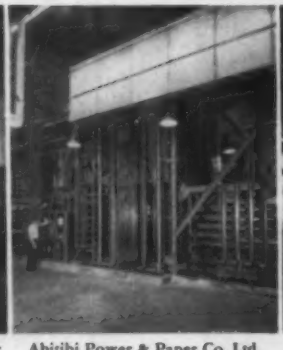
Masonite Corp. (Australia) Ltd.
Eildon, Victoria, Australia
Product: S2S HARDBOARD

Gray Products Co. Inc.
Waverly, Virginia
Product: FLAKEBOARD



Johns-Manville Products Corp.
Natchez, Mississippi
Product: HARDBOARD

Poinsett Lumber & Manufacturing Co. (Singer Mfg. Co.)
Pickens, South Carolina
Product: PARTICLE BOARD



Abitibi Power & Paper Co. Ltd.
Sturgeon Falls, Ontario
Product: PLATELET BOARD

Carolina Forest Products Inc.
Wilmington, North Carolina
Product: FLAKEBOARD

Pope & Talbot, Inc.
Oakridge, Oregon
Product: PARTICLE BOARD

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WASHINGTON IRON WORKS

Particle Board Can Have a Future *(Continued)*

a year. This means that all existing plants will have to invest an average of $1,000 annually for the administration of its organization—but this is only the beginning. The organization must have additional funds to operate and conduct worthwhile development and promotional projects. The first objective should properly be to establish minimum product standards. The cost of this project to each manufacturer can only be guessed; it will somewhat depend upon the speed with which activities, including the development of testing procedures, are conducted. However, each firm participating in the business should be prepared to spend an additional $500 to $1,000 annually for one, and possibly two years or more.

In the beginning, minimum standards will probably have to be of the simplest form and will by no means be the ultimate for which the industry should strive. However, they will be a start— the rest should come easier. They will open up new markets that are now closed to the industry, and will give the consumer a measure of confidence in the new particle board products.

After this all-important first step, the industry must work out some method for guarding its minimum standards. This is a complicated matter, and its importance is often overlooked. A stamp on any product indicating that it conforms to a minimum standard is of little or even negative value unless backed up by product testing and quality control. This type of service can be provided by an outside, unbiased organization. An adequate quality control and certifying system would cost the average particle board producer from $3,000 to $5,000 annually. Such a service would include periodic testing of product samples for uniform quality, examination of plant procedures and facilities, testing for conformance with FHA Interim Standards and testing specific shipments.

Some manufacturers will hesitate to participate in such a service from natural reluctance to any kind of discipline. Further, in the beginning some manufacturers will be apprehensive that company secrets would be given away. However, these objections are relatively unimportant as compared to the over-all benefits to be gained. The disclosure of plant secrets can be guarded against, and any organization performing this service would exert the utmost integrity to protect the client's confidence. The fear of regulatory influences is more imagined than realistic since compliance with industry standards must be voluntary.

PRODUCT IMPROVEMENT is always difficult when an industry is made up of a large number of small units. Probably no completely satisfactory answer has ever been found. Group or industry-wide research is indispensable, and with common problems this is the cheapest and most effective method. However, firms should also be encouraged to undertake independent investigations. These latter investigations can be tailored to suit the pattern, and may be conducted in the company's own research laboratory or in a qualified commercial laboratory.

The cost for group research is impossible to estimate until a program is developed. However, if forty plants would put up a minimum of $3,000 annually, several fundamental problems could be undertaken and solved within a reasonable time.

A total annual sum of approximately $9,000 for the foregoing services for each plant is a sum of money that will be hard to come by. However, the particle board industry cannot escape these responsibilities, and the sooner the work is done, the quicker the industry will be on a paying basis.

IN RESEARCH that should be undertaken, the industry needs information about its markets and potential markets. It should have accurate data on production; it must finance surveys to determine what progress is being made in technical advancements in all countries.

The industry must work with its own research organizations and the research organization of its suppliers of raw materials to develop better and cheaper adhesives; it must find fully waterproof glues that can be economically used for exterior types of products; it must develop the means to obtain higher internal bond, better smoothness and maximum dimensional stability. It should investigate ways for improving the appearance of its products, and procedures for proper use by the consumer. For example, the consumer should be taught how he can nail, groove, cut and form the material.

If the industry is to develop a substantial market for exported furniture parts or raw products to tropical climates, methods for insect-proofing will be needed. A fire resistant material will be a definite advantage in both foreign and domestic markets.

WHAT ABOUT THE PLANT OF TOMORROW? This is an important question because it will indicate to the present plant owner what he will have to do to keep his plant modern.

First, there are no indications that the upward spiral of costs for plant construction is reaching a ceiling or even tapering off. In the beginning, the average plant was small and designed for hand operation. Later continuous or automatic forming came into widespread use. Multiple opening platen presses have been improved in design and in size, and continuous operating extrusion presses are common throughout the industry. New methods and equipment for producing better geometrically designed particles have been developed. In the future we may confidently expect that continuous platen processes will be in common use in larger plants.

One of the principal advantages particle board can offer is a low comparative cost. Therefore, the producers' primary goal should be to reduce costs. One way of doing this is to increase the productivity of plants. This requires more equipment, better designed equipment and larger equipment. Therefore, the cost for plants of the future will continue to increase until reasonable maximum efficiency has been reached. There will probably always be a place for a few small plants, but the average plant of tomorrow will be much larger and more expensive than the average plant of today.

THE MARKETS FOR 1958 are being affected by several conditions. First, the economic situation has reduced the markets for most all types of construction material. Secondly, as the prices for competing materials go down, the greater the competition and, hence, the greater the sales effort that will be required.

These conditions, however, are but temporary and can always be expected with fluctuations in the nation's economy.

More important, the particle board industry, which was born on a rising economy, has had no experience with these economic fluctuations and is less prepared to meet them than any other wood products industry. The present experience, if it does not go too far, may well be to the industries' advantage. The experience gained will be invaluable in counteracting future fluctuations that are bound to come.

There is no need to fear for the future. A greater and more rapid expansion of particle board markets is possible if industry members will cooperate to do promptly those things which must be done.

SPECIAL HARDBOARD REPORT

More Pressure to be Applied

on hardboard sales. Imports and profits are problems.

By DONALD LINVILLE
Executive Secretary,
Hardboard Association

THE DOMESTIC HARDBOARD INDUSTRY can, like the other major segments of the building materials industry, look back upon 1957 as a year of comparative prosperity from the standpoint of shipments. Profits, however, did not keep abreast of production or shipments, and the industry has not yet attained capacity operation.

SHIPMENTS: Members of the Hardboard Association, which produce more than 90% of all hardboard made in the United States, shipped the greatest quantity in history last year. Converted to a ⅛-inch basis, 1957 shipments totaled 1,630,634,000 sq. ft., which still is short of the 2,200,000,000 sq. ft. estimated current capacity of the industry.

NUMBER OF PLANTS: There are now 14 U.S. plants producing hardboard. Another, built by Bowater Board Co. at Catawaba, S.C., is expected to be in production next year.

Two were opened earlier this year, by Abitibi Power & Paper Co. at Alpena, Mich., and by Johns-Manville Corp. at Natchez, Miss.

Last year one was opened by Hardy & Co. in Little Rock, Ark.

Three others that went into hardboard production within the last five years are those of Oregon Fibre Products, Inc., at Pilot Rock, Ore.; Coos Bay Lumber Co. at Coos Bay, Ore., and Weyerhaeuser Timber Co. at Klamath Falls, Ore.

STANDARDS: The Hardboard Association has co-operated with the General Services Administration in bringing about a revision of hardboard specifications by that government agency. Federal specification LLL-F-0031 was revised and now is available in LLL-H-35. The association, through its technical committee, is working on development of commercial and industry standards.

ASSOCIATION ACTIVITIES: Since its inception, the Hardboard Association has had to face the problem presented by constantly increasing quantities of imported hardboard being sold for substantially less then domestic prices. The problem has grown greatly over the past 10 years as surplus foreign capacity has sought American markets and because our tariffs had been progressively reduced through trade agreements.

The situation became so acute that in 1953 the Hardboard Association filed a petition with the U.S. Treasury Department protesting the dumping of hardboard from Sweden. In 1954 we were the recipient of the first dumping finding of major scope over a 14-year period.

This finding, still in force, has not deterred imports of Swedish hardboard. In fact, hardboard imports from Sweden have increased sixfold since the finding became official.

Hardboard production facilities have been expanding abroad as well as in the United States. There are now at least 85 hardboard plants in 25 foreign nations. Many of them ship their product to this country, which they consider to be one of the world's major markets.

Unless the domestic industry receives some tariff consideration, the foreseeable growth of hardboard imports poses a definite threat to U.S. producers. The expectation of increased imports is well founded for these reasons:

1. Domestic producers face decidedly adverse transportation costs compared with those of overseas producers in reaching the heaviest consuming market areas in this country. It's the old story of high rail vs. low water transportation costs.

2. Domestic producers pay wage rates more than double those paid by foreign producers. These rates cannot be offset appreciably by operating efficiencies because most of the foreign plants have been built or modernized since 1945, and the mechanized nature of hardboard manufacture is basically the same in all countries.

3. The present low reduced duty is but a fraction of the wage and transportation cost advantage of foreign producers in reaching our major domestic markets.

We will continue to carry the fight for our industry to appropriate government agencies and to the Congress, for profit levels will continue to decline if foreign board continues to expand at dumped prices.

On the domestic scene, the development of new products and new uses for hardboard continues. In the last five years the Hardboard Association has periodically stepped up its promotional program to its present peak.

At a time when the economic recession is a popular topic, it is apparent that American industry must whet its sales techniques. Hardboard producers are putting a keen edge on the sword of salesmanship and are thrusting this weapon home with the sharp point of persistent promotion. The 1958 promotional campaign will be largest in the association's history.

The targets are three—the construction business, industry in general, and the do-it-yourself enthusiast.

MAJOR MARKETS: In the construction market hardboard is used primarily for floor underlayment, interior paneling, exterior siding and concrete forms. It is used in new home construction and in the remodeling of existing dwellings.

Hardboard has many industrial uses—in furniture, toys, displays and signs, radio and television cabinets, and interiors or exteriors of boats, automobiles, buses, trucks, trailers, railroad cars and airplanes.

Another growing market consists of the men who enjoy wielding hammer and saw in their home workshop. More and more people at the consumer level are becoming familiar with the versatility of hardboard. They're gradually learning that hardboard is more than just a sheet material, that it's a product that can perform literally thousands of jobs for them.

for fast, economical high-frequency curing of bent forms

LODGE & SHIPLEY

Columbia **hydraulic presses**

WITH CERTIFIED SHIELDING

Double Duty

HIGH-FREQUENCY PRESS

You can turn out laminated curved panels with a Columbia High-Frequency Press, using low-cost, metal-faced wooden dies that can be made in any woodworking shop. The fast, simple operation gives high production from a single set of dies; saves floor space by eliminating storage required for curing. For double versatility, the same press can be switched over quickly to conventional cold press work.

Open a new field of profitable production! You can produce laminated curved panels such as chair seats and backs, case goods, fronts, cabinets, etc. at low cost and high speed. Columbia High-Frequency Presses meet all FCC and safety regulations.

For complete details, write for Bulletin No. HF-18

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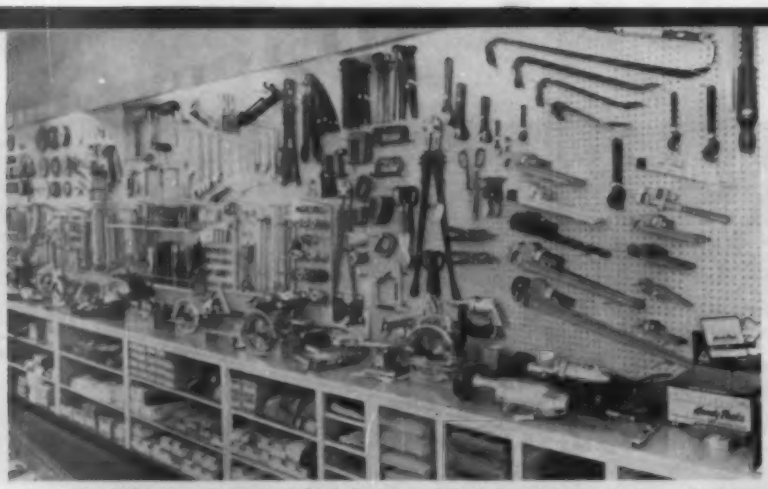
Lodge & Shipley
. . . your Lodge-ical choice

For economical production . . .

1. Insert Glued Pack . . . Start Curing Cycle

2. Remove Finished Panel



PUNCHED BOARD available in both Perfo-Square and Perfo-Round is popular item of custom manufacturing plant at Cascades. Here is shown as used in tool display in hardware department.

Custom Manufacturing

and what it does for Cascades Plywood Corp.

"OUR CUSTOM MANUFACTURING plant just gives us one more string to our bow."

In these words, B. V. Hancock, executive vice-president of Cascades Plywood Corporation, Lebanon, Ore., describes the sales advantage gained through the custom manufacture of component parts, utilizing Cascades plywood, Lebanite hardboard, and Lebanex hardboard-faced plywood.

Growing board competition requires such diversification as that provided by the custom manufacturing plant, which produces boat parts, furniture parts, reel ends, and other cut-to-order parts for industry. The market calls for parts cut to order, and maintaining a good order file requires keeping up with the market.

Sales manager Orvie M. Johnson outlines the growing trend toward custom manufacturing of component as caused by four principal factors:

(1) **STREAMLINING OF MANUFACTURE,** where the trend in furniture and other assembly-type plants is to eliminate as many manufacturing operations as possible, allowing concentration on assembly work. This results in greater efficiency and reserves valuable space for more productive work. In some cases, the custom manufacturing plant provides comonents that require no further machining.

(2) **WASTE DISPOSAL PROBLEMS,** which are of growing importance, particularly in such centers as Los Angeles, Calif., where smog prevention rules limit and even prohibit burning for days at a time. Refuse disposal can be costly, and limiting waste will lower production costs.

(3) **REDUCTION OF FREIGHT** and handling costs. With custom manufactured parts, the customer pays freight costs only on the material he uses. He does not have to pay transportation charges on material to be thrown out as waste. Since custom manufacturing is done at the same location where the board material is produced, the expense and extra handling caused by ordering full panel sizes and sending them elsewhere for cut-up is eliminated.

(4) **WAREHOUSE EFFICIENCY,** where the manufacturer is able to make the most efficient use of his warehouse space by stocking component parts cut to desired size and shape, instead of handling an inventory of full-size panels.

Price is an important factor in the custom manufacturing plant operation. The production of components must be profitable to Cascades. This requires close planning in making the most efficient use of the panel area in the cut-up operation. If it is impossible to get complete recovery, the price must be gauged accordingly.

Mr. Johnson is kept informed of volume in odd cuttings and keeps his field force on the lookout for customers who can utilize these left-overs, mostly in the furniture industry.

The custom manufacturing plant also provides perforated boards, sold under the registered trade names: Perfo-Square and Perfo-Round, according to the shape of the perforation. These boards have found a popular place in retail display and have nationwide distribution.

The clay tile industry has instituted a demand for special pallets to be used in drying the green clay tile before it is baked. These pallets are made of special Lebanex—a thick plywood core faced with PL90 Lebanite, a high resin content, high density hardboard extremely resistant to both abrasion and heat. The pallets are drilled in accordance with customer specification to provide good circulation of the drying air in the kilns.

The Cascades custom manufacturing plant serves the company's plywood plant as well as the Lebanite Hardboard and Lebanex divisions. The plant is geared to a high production schedule, which makes a heavy equipment investment profitable.

The company maintains salesmen in California and in the Midwest and Southwest regions, doing both sales and promotion work.

In addition to the custom manufacturing operation, Mr. Hancock stresses the value of quality control in board manufacture. He says, "The big problem in keeping your place in the board market is one of quality control. As long as you continue to turn out a quality product, you're pretty much assured of the market you've already developed. It remains then only to center your attention on finding new markets."

MACHINE PUNCHING of Lebanite is done in Cascades custom plant. Both Perfo-Square and Perfo-Round rapidly produced in multiple punch which advances panel after each row of punches.

LETOURNEAU LOG STACKER

CUTS YARD COSTS 30% for South Carolina Mill

LOGS HELD SAFELY AT EYE LEVEL MAKE SCALING QUICKER AND EASIER

Clarendon Flooring Co. replaces overhead system, 2 cranes, 5 men.

ONE MAN and one machine have simplified yard operations for a mill handling smaller logs — cypress, pine and hardwoods.

Until recently, Clarendon Flooring Co., Alcolu, South Carolina, required a railroad crane, crawler crane, overhead trolley line and two steam winches to handle logs for its double band mill. With a LeTourneau Log Stacker on the job, all of this equipment has been eliminated, and five men made available for other duties.

The versatile Log Stacker does every job in this yard quickly and easily. It unloads trucks in one bite and has them clear of the yard in 5 minutes. It sorts logs and works the decks. And in addition to all this, it also feeds the mill!

Power and versatility to handle all these complex operations in a busy mill yard is possible only with the LeTourneau system of diesel-electric power. The big steel lift, grasp, and tilt mechanisms respond with power to the touch of a control switch because each is individually powered by a high-torque LeTourneau AC motor. Driving power for hustling about with 25-ton loads is provided by four LeTourneau Electric Wheels — each with a smooth-working DC motor driving from inside the rim to provide locomotive-like power and speed control.

Your LeTourneau Distributor will be happy to show you how your operations can benefit from one of these amazing machines. No obligation, of course. For additional information and literature, fill in and mail us the coupon below.

TRANSFERS ENTIRE TRUCK LOAD FROM BUNKS TO DECKS IN MINUTES

R. G. LeTOURNEAU, INC.
2547 South MacArthur
Longview, Texas

- ☐ Send me literature describing the Log Stacker.
- ☐ Arrange for me to see a film showing the Stacker in action.
- ☐ I'd like an analysis of my mill operation to see how a Stacker might cut my operating costs.

Name and Title_____

Company_____

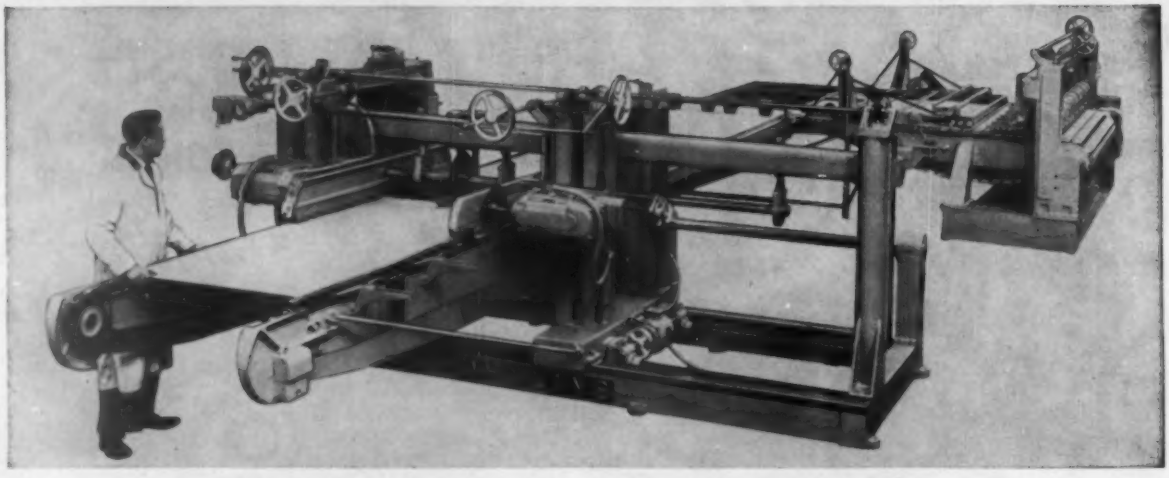
Address_____ City, State_____

R.G. LETOURNEAU INC LOGGING EQUIPMENT DIVISION • 2547 South MacArthur, Longview, Texas

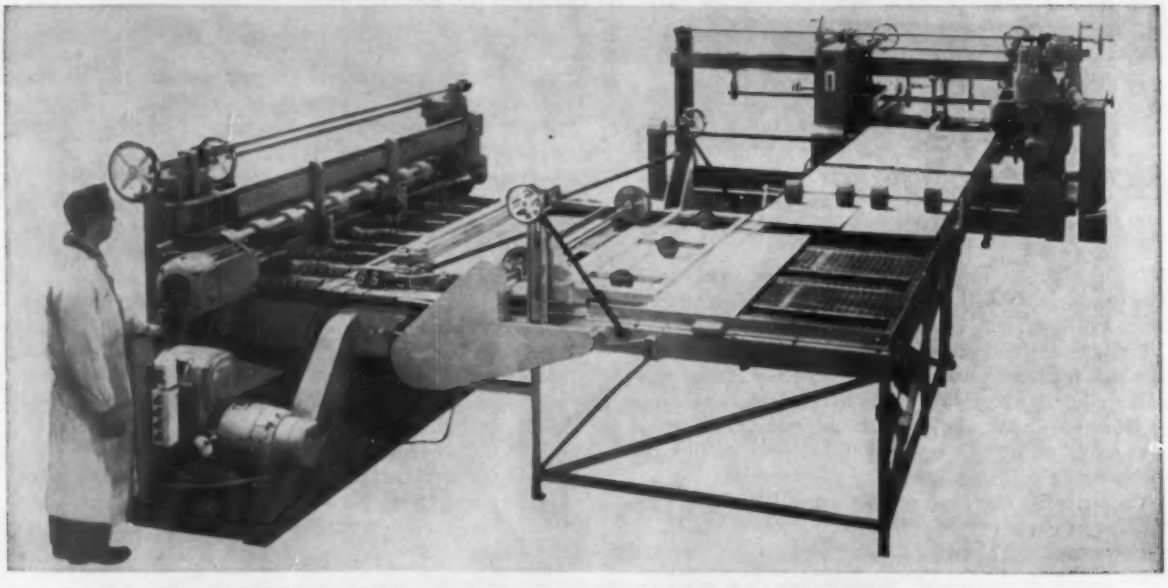
L-146

NEW Jenkins Right Angle Transfer Unit

New Combination of Trim Saw . . . Transfer Table and Multiple Cut-Up Machine



Trims . . Splits . . Transfers . . Squares . . and Feeds Solid or Split Panels Automatically to Multiple Cut-Up Machine



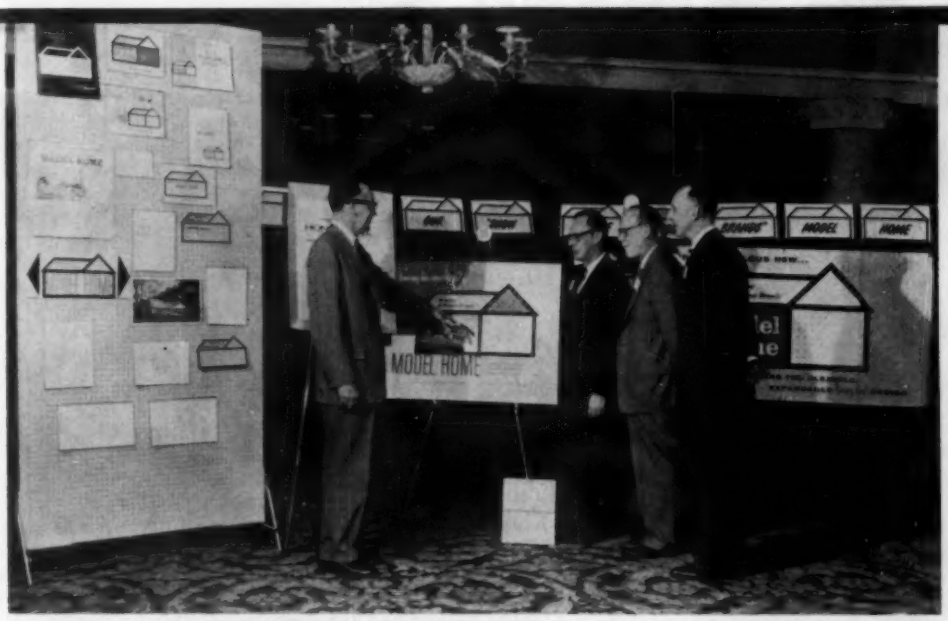
- **Continuous panel flow . . . no problems of intermittent feeding or synchronizing.**
- **Minimum labor costs . . . no off-bearing, stacking, or handling between machines.**

Write for complete details today

Jenkins Woodworking Machinery

manufactured by
KOHLER-JOA CORP.
Sheboygan Falls, Wisconsin

R.G. LeTOURNEAU INC. LOGGING EQUIPMENT DIVISION • 2547 South MacArthur, Longview, Texas
L-146



COMPLETE PACKAGE of promotional aids in the Masonite "Showcase of Famous Brands" program being pointed out to three division sales managers by F. O. Marion, general sales manager. Division managers, l to r: Don Moore, midwest; Lee Rodda, central; and William Hoy, northwest. Besides dealer posters here, package includes publicity kit, signs, brochures, direct mail items, honor roll for famous brands, store pennant and streamers.

Merchandising-Minded Masonite goes all out

to help dealers improve profit position with big "Showcase" promotion

A MAJOR CONTRIBUTION to merchandising techniques in the board industry is offered this summer by Masonite Corporation to its dealers who participate in a nationwide program centering on their sponsorship of a model home.

Called the Masonite *"Showcase of Famous Brands"* model home promotion, the program puts into the hands of dealers a full complement of sales aids for attracting prospects to a model home designed by the nationally-known architect, Rudolph A. Matern.

Participating dealers expect to win an unprecedented number of leads from visitors wanting to improve their existing homes or interested in building new ones.

The promotion is designed to give lumber dealers an unusual opportunity of strengthening their bonds with builders and adding new ones to their clientele. Dealers will make the model homes available to builders and their prospects and will turn over to them the names of visitors at the dealer-sponsored "open house" who expressed an interest in building.

For their selection, dealers have seven especially-designed models planned by the noted New York architect.

Masonite Corporation offers its dealers both short-range and long-range viewpoints for participating in the promotion, according to Paul B. Shoemaker, vice-president in charge of sales, who said:

"This is a crucial year for retailers and our entire economy. We have in this promotion a topnotch vehicle for improving the sales and profit position of our dealrs. Efforts of this type—which sell basic products—are bound to have a beneficial effect for not only the participants but the general economy. This promotion has the ingredients for capturing today's most elusive goal of every lumber dealer: the same consumer dollar for which a variety of competing sales forces are fighting.

"OUR 'SHOWCASE OF FAMOUS BRANDS' promotion supplements and implements another nationwide effort backed by the building industry under the banner of the Home Improvement Council. Surveys have shown that about 80% of the people visiting a model house are looking for ideas to incorporate in their present homes. The balance are interested primarily in building a new home. With the lumber dealer as the promoter of a high-grade model home, he's in a wonderful position to benefit himself, local builders, the community and the economy as a whole.

"Looking at this promotion in the long range, we are positive that dealers who wholeheartedly participate will profit from the experience when the light construction market really begins booming, as now predicted, in the early 1960s. The dealer who knows the effective merchandising methods today and in the coming years is the one who will be most successful."

Mr. Shoemaker described the seven the model home is virtually self-liquidating, that the lumber dealer is not competing with builders but rather is supporting them, and that it fits into any building or land development plans dealers have.

Mr. Shoemaker oescribed the seven house designs as "imaginative in concept, interesting in detail, rich in local merchandising value, comfortable and convenient in keeping with modern living concepts, and very salable."

Using the famous "living core" concept as a base, any of the designs may be expanded by the owner to fit his particular family requirements. The "living core" itself consists of an entrance foyer, living room, dining room, kitchen, one-half bath and family room.

EXCITING AND NEW, any one of the seven designs is bound to arouse public curiosity and interest because of the "new concept of living" it offers, the sponsor said. Each is available in a variety of syles, arrangements, materials and features. Styles may be traditional, contemporary or modern; ranch, story and a half or split level. The house may be built over a basement, crawl space or slab. Another flexibility in the design is that the model can face in three different directions on the lot, with three different choices of garage location, as well.

Designs of the "Showcase" promotion houses incorporate the latest ideas on consumer "wants" as expressed at the second annual "Congress of Better Living" and other research of people's likes and dislikes. Mr. Shoemaker pointed out that the architectural firm's affiliate, Homemaster Publications, Inc., has done extensive research on the popularity of various house plans. More than 50,000 homes based on the affiliate's plans have been built in the past 10 years, he said.

Depending on his own wishes, a dealer may build the house himself or have a contractor build it; the house may go in or near his lumber yard or on a residential site. His promotion may be brief or extended. Many of the dealers will have their open house and attendant promotion during National Home Week.

A FULLY-PLANNED KIT of promotional materials and ideas is available to participating dealers. Beside this, the company offers seven new house plans for selection, a complete step-by-step plan of action, national advertising support and an extensive program of publicity and community relations.

The booklet outlining the plan of action is based on sound experience and covers the following topics: model home and the dealer, selecting basic plan, choosing lot and location, financing; decorating, furnishing and landscaping suggestions; publicity and how to get it, pre-open house promotion, how to stage the open house promotion, how to get active new home prospects and remodeling leads, how to attract new builder accounts, and special tie-in promotions.

The promotion kit contains:

A plan booklet for consumers on the seven "living core" home designs —including renderings in color and floor plans; newspaper ad layouts, a complete publicity kit, radio and television copy, films and transcriptions, two-color direct mailer, consumer give-away "idea" booklet with dealer's imprint on cover, wall banner-window streamer, prospect cards, "Showcase of Famous Brands" wall plaque with space to list the famous brands featured in model homes, directional arrows, interior feature signs, and outdoor signs. All these items are made available to participating dealers at no charge.

Names of all dealer participants will be listed in a page, full-color advertisement appearing in a September issue of The Saturday Evening Post published in time for local promotion during National Home Week. Masonite will provide ad blow-ups, special envelope enclosures for monthly statements, and a special drop-in newspaper mat.

The publicity program includes a package of stories ready for tailoring and placement in local newspapers, a typical radio interview for use on local stations, and an eight-page newspaper supplement to help put over the model home promotion and to be available for independent distribution by the dealer in nearby communities.

AMONG THE IDEAS suggested to dealers in the promotional kit is a design for a selling center. This, of course, will be outfitted with the famous brand names selected by the dealer for his model house.

When a dealer agrees to participate in the promotion, he is given a set of four working drawings, elevations, specifications and bill of materials, plus the promotional package.

Mr. Shoemaker pointed out that the designs are in no sense experimental but were drawn by a competent, experienced architect to meet today's living requirements. Materials specified include a judicious selection of Masonite hardboards used in conjunction with other materials.

Examples of hardboards suggested are various types and styles of exterior siding, often specified for use with stone or roman brick. These are Shadowvent, Ridgegroove, Panelgroove and Tempered Presdwood with battens. Another exterior application is "Peg-Board" for soffit vents with Presdwood. Misty Walnut, Seadrift, "Peg Board," Marlite and Duowall are suggested for various accent walls and other areas of the interior.

SHOWCASE homes are designed around the "living Core." Tripoli model above contains 1,400 square feet. All well designed and planned. Dealers may build houses, have contractor build it, on selected site or near plant. All sales aids will be provided.

ONE OF SEVEN selections of houses in "Showcase" promotion, being inspected by F. O. Marion, general sales manager, left; Arthur R. Reid, assistant general sales manager, center and Ray S. Chase, sales promotion manager, all of Masonite.

when AUTOCAR diesel takes over the transportation job, hauling costs drop!

- Autocar alloy steel, heat treated frame has strength for top payloads—flexibility to take wrenching over rough ground.
- Balanced drive shafts, crankshafts, flywheels and clutch assemblies provide top efficiency and vibrationless performance.
- Husky tandem rear axles withstand the most rigorous service, far beyond normal truck use.
- Nut and bolt construction—far stronger than rivets—keeps components secure, yet permit ready replacement.
- Autocar's renewable bushings at critical wear points prevent wear on more costly parts.

In the forest industries, cost saving is more than coincidence... it's the scientific result of using the best machine on the job. That's why experienced loggers throughout the West, such as the C. M. Bates Logging Company of Cloverdale, Calif., apply the cost saving benefits of the Autocar diesel... engineered to yield more profit. Call *your* Autocar representative now, and let him show you what this unique motor truck can do for you.

Sales and Service Facilities Everywhere

Autocar

THE WHITE MOTOR COMPANY, **AUTOCAR DIVISION**, EXTON, PA.

YOU CAN FILL A WAREHOUSE with packaged items, just as this one at Simpson Logging Co., but it is the hidden ingredient of teamwork within the organization that spells the success of an item, says Simpson's research director Arthur Walton.

Building Markets with New Products

Requires Cooperation, Timing, Sales Management and Money

"YOU'VE GOT TO ROLL with the punches and keep on coming up with improved products and diversified uses, in this insulation board market," says Henry Warnaca, insulation and board products sales manager for Simpson Logging Co., Shelton, Wash. "Besides producing a full line of standard products, it requires the constant team work of market research, product research and sales management. When a market is lost, you go after new markets." These are principles applied to specialty board sales at Simpson.

For instance, they have found that more and more markets want single pieces that can be applied for more than one use or purpose—sections that serve the dual purpose of ceiling and roof or panels that will form stationary or movable walls.

"If you produce multiple products and can integrate those products, so much the better economically and saleswise," Mr. Warnaca said.

First law at Simpson is this: The product must be right. It must be proven not only in their own development laboratory, but on the job, before it becomes available for extensive distribution. The product must also be adaptable to strict, uniform quality control. Then follows the problems of packaging, branding, merchandising and sales.

The dealer takes the quality of the manufacturer's products for granted. He handles hundreds of products and is not concerned with the comparative quality of every item. He expects his wholesaler to supply him with quality products; if they don't sell he won't handle them long. "That's how competitive it is and the manufacturer must accept the fact that he must do his own selling at every stage of distribution," Mr. Warnaca advised.

Pricing of new board products must also be competitive. Each item must be compared with competitive materials it faces in the various types of construction. This factor is an integral part of all market studies at Simpson.

There are many other problems to solve in new wall or ceiling products: wiring, modular construction, fitting windows and ease of application. "Today you don't just dream up a product," said Mr. Warnaca, "usually it has two jobs, or more, and the new item must do those jobs better collectively than the previous materials did separately." Another important consideration in marketing is methods of distribution. "If we brought out a new product that was distributed through entirely different channels than the rest of our line, it would pyramid our selling costs, and this alone might rule it out. This is a serious realistic problem that manufacturers of any board item have to face, whether it's softboard, hardboard or particle board."

"New products are our life blood," according to insulating products manager Gilbert Oswald. "The building business is difficult to design for, since we do not set the style and trends are different in various parts of the country. The ratio of ideas on new products, to those actually used, is 100 to 1. A new product must be economical and perform a function better than competing products. If it fulfills several needs, then it can sell for more.

"The importance of new products was brought home during the recent drop in demand for lumber and plywood when the *Forestone* plant was running three shifts per day to keep up with the demand," said Donald K. Meissner, sales manager for acoustical products.

He further pointed out the importance of working with designers, architects and builders in gaining acceptance of new products, and the fitting of market surveys into the program. The knowledge gained by the sales department during the trial and survey periods is relayed to research, production and management and necessary changes in product or appearance are made to conform with actual requirements at the consumer level.

Launching a $1 Million Specialty

FOLLOWING a routine announcement in late 1954, Simpson Logging Co. introduced *Forestone*, a new ceiling tile. The product, not too different from a similar item the company was producing commercially from mineral, attracted acoustical sales manager D. K. Meissner. Recognizing possibilities of a fissured tile from wood fiber, he went to work on the job. Behind the scenes, every level of management worked long and diligently before a single dealer was offered a carton for sale. A total of $1 million was the estimated cost of putting *Forestone* on the market.

It was an immediate hit, offering an attractive ceiling with a decorator-styled finish to blend with any type of interior for home or office. Coming in 12x24″ handy-sized, flanged tiles, it appealed to the do-it-yourselfer. This year, five influential designers are creating new atmospheres for application of *Forestone* that will keep it at peak demand.

It is packaged in paper board cartons and sold through contractors and building supply dealers, the later mainly for the do-it-yourself markets, in 12″x24″ and other size tiles.

One-Product Roof and Ceiling

COMBINING into a single panel, the company's top-flite ceiling tile *Forestone* with a sturdy roof decking fabricated of multiple layers of asphalt-impregnated insulating board, Simpson Logging Co., have introduced the new double-purpose *Acoustical Roof Deck*.

Two to 3-inch thick laminated insulation board forms the backing and roof and the *Forestone* acoustical tile forms the ceiling with its decorator-styled finish.

The product combines four functions: It is a strong roof deck and will support all normal loads; has high insulating value; controls noise and is attractive. Installed quickly and economically, it eliminates need for ceiling joists, requires fewer roof beams as decking spans 32″x48″ instead of 16. It ends need for drywall, lath, plaster and paint.

Behind the product are long months of laboratory and on-the-job testing. A quality controlled product, particularly adaptable for exposed beam construction. Another example of hitting the market with a new product that does a multiple job at less cost.

Multiple-Use Integrated Product

WHEN SIMPSON research program pointed up prospects of a wedding of plywood and insulation board, a new laminated product was born. First cousin of the new *Forestone Roof Deck*, the difference is the exposed ceiling surface of select hemlock plywood. Insulating wood fiber backing is the same.

Called *Planked Golden Hemlock Wood-Dek*, exposed panels are scored and beveled on 8-inch centers, creating an appealing planked effect. Factory finish requires no further painting.

A team of four men from research, engineering, production and sales management, set up specifications. The Institute of Technology, Pullman, Wash., performed test to determine compliance with building codes. Between 50 and 75 company technicians, sales and management men teamed up on the job during the 2-year dry-run for laboratory and field testing before it hit the market this year. Other applications may be: use as walls; with plywood on both sides as movable walls. At right, plant superintendent Woodrow Johnson inspects a prefinished *Golden Hemlock Wood-Dek* panel.

EASY TO APPLY, *Flakewood* is quickly put in place. Tongue and groove tiles allow for concealed nailing. Easy for the do-it-yourselfer to handle. Applied to studs, board forms completed inner wall. The long-length fibers provide high strength.

FLAKEWOOD is marketed in 4x8' panels with alternate tile sizes of 12x12" and 16x16". Made of oversize flakes of cedar, pine, lauan, birch or fir flakes, the cedar flake has proven the most popular. Above shows use of *Flakewood* for walls and floor tile.

Product Integration and New Markets

go hand-in-hand for International Paper's Long-Bell flakeboard products

COMBINING PRODUCT DEVELOPMENT, wood utilization and product integration, of the flakeboard operation at Long-Bell Division, International Paper Co., Longview, Wash., followed this pattern of growth:

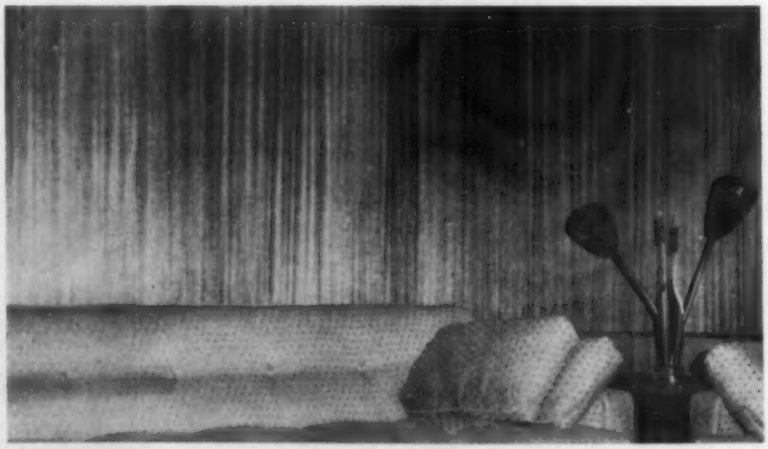
- Research program instituted to advance utilization
- Plant built for manufacture of high-value decorative board
- Numerous sizes and variations of *Flakewood* developed for market
- Attractive and protective packaging of board
- Combination of board with plywood and lumber in new Long-Bell products.

It all began when the research department began its investigation into pressed board following World War II under direction of the late T. E. Heppenstall, vice-president, and research director Arthur L. Mottet.

In 1948 a new method of cutting wood into cross-cut fibers and flakes was discovered. A patented machine was built with rotary cutterhead. Knives traversed the wood in a direction perpendicular to the grain, with the actual cut or cutting surface, parallel to the grain. Cutting conditions are controlled to produce fibers and flakes in a broad range of lengths and thicknesses. An important feature of the process is that wood fibers are left relatively undamaged; thus reducing the amount of resin needed for making a strong board.

A pilot plant was built in 1951 and for several years a closed door operation was conducted until the final flakeboard product was developed to the point where Long-Bell management was satisfied that they had a high-quality board of commercial potential.

A large share of the behind-the-scenes activity was devoted to the quality control and grading. Even in today's plant operation, a strict policy of quality control is maintained.



NEWEST PRODUCT at International Paper, Long-Bell Div., is *Ven-O-Wood*. Using a standard pressed board backing bounded with ribbon-grain lauan, birch or vertical grain Douglas fir veneer surface. In addition to being made of 4x8' panels, *Ven-O-Wood* is tongue and grooved for blind nailing in the form of planks and parquet squares. Specialty item has been well received in the decorative panel markets.

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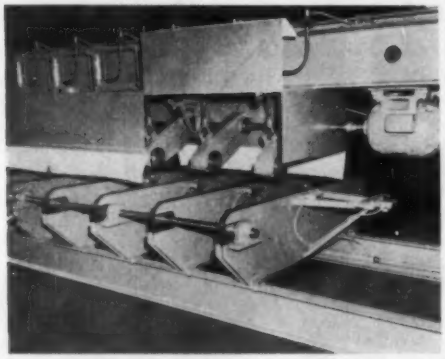
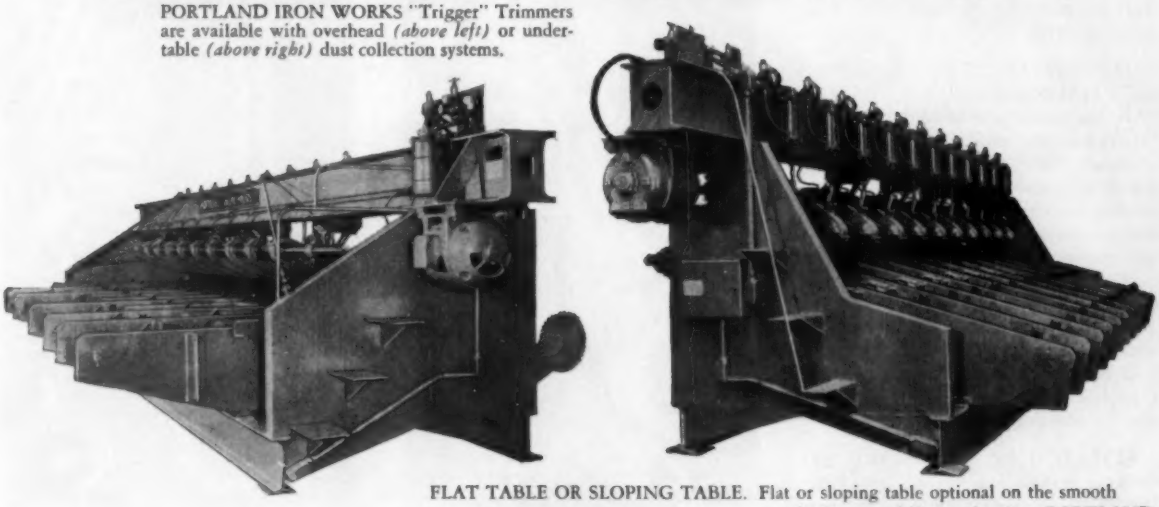
No Shorts . . . No dancing lift wheels

PORTLAND IRON WORKS "Trigger" Trimmer (COVERED BY U. S. PATENT NO. 2,714,407 AND CANADIAN PATENT NO. 263,581) *automatically* selects saws which trim each board at maximum marketable length. A board cannot pass without proper trim. *Human error* is eliminated as each board—at incredible speed—passes through this trimmer. Precision engineering, close tolerance and the most advanced design are yours with "Trigger Trimming".

With PORTLAND IRON WORKS there are no *standard* Trimmers. Each is custom built to completely fulfill the needs of your own particular mill.



PORTLAND IRON WORKS "Trigger" Trimmers are available with overhead *(above left)* or under-table *(above right)* dust collection systems.



FLAT TABLE OR SLOPING TABLE. Flat or sloping table optional on the smooth end trimmers. (Also optional on PORTLAND IRON WORKS Mill Trimmers.)

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Product Integration *(Continued)*

FIBERS ARE PRESSED by a dry process from a thick fluffy mat into smooth two-sided boards which retain the color and appearance of natural wood and resemble natural woods more closely than other board panels. By overlaying fibers with larger cross-cut flakes, the plant produces *Flakewood* of ponderosa pine, Douglas fir, western maple, western red cedar, birch and lauan.

The larger flakes are actually miniature wood veneers of various sizes and color tones, giving the panel a distinctive, modern-textured, three-dimensional appearance.

Because the flakes are scattered at random, with each flake overlapping adjacent flakes, some of them stand out brightly in contrast and change with the angle of view, results in unusual effects.

While the early uses of *Flakewood* were predominantly for decorative applications, other outlets were developed for the basic board without overlays. The standard pressed board is used as core for overlay by furniture plants and in the company factory, serving as dimensionally stable cross banding for kitchen cabinet doors.

The cabinet door sandwich consists of solid wood lumber core, two cross bands of 3/32″ standard pressed board and the outer finish faces of birch or other hardwoods.

NEWEST PRODUCTS in the line are *Ven-O-Wood* and *Flakewall*. *Ven-O-Wood* panels use a standard pressed board backing and a veneer surface of lauan, birch or vertical grain Douglas fir permanently bonded. For high quality paneling or furniture applications, it comes in 4x8′ panels or tongue and grooved parquet squares.

Flakewall is a competitive product of fir flakes coming in ¼″ thickness and in full 4x8′ panels. Oddly enough, while intended primarily as an interior wall cover, *Flakewall* has a decorative appeal and when properly finished offers a pleasing appearance.

RESEARCH for both products and markets is handled by the company. The program is extremely productive of new ideas and product news. Normally, the company staff does the job themselves. Research and sales personnel all contribute to the success of the continuing program.

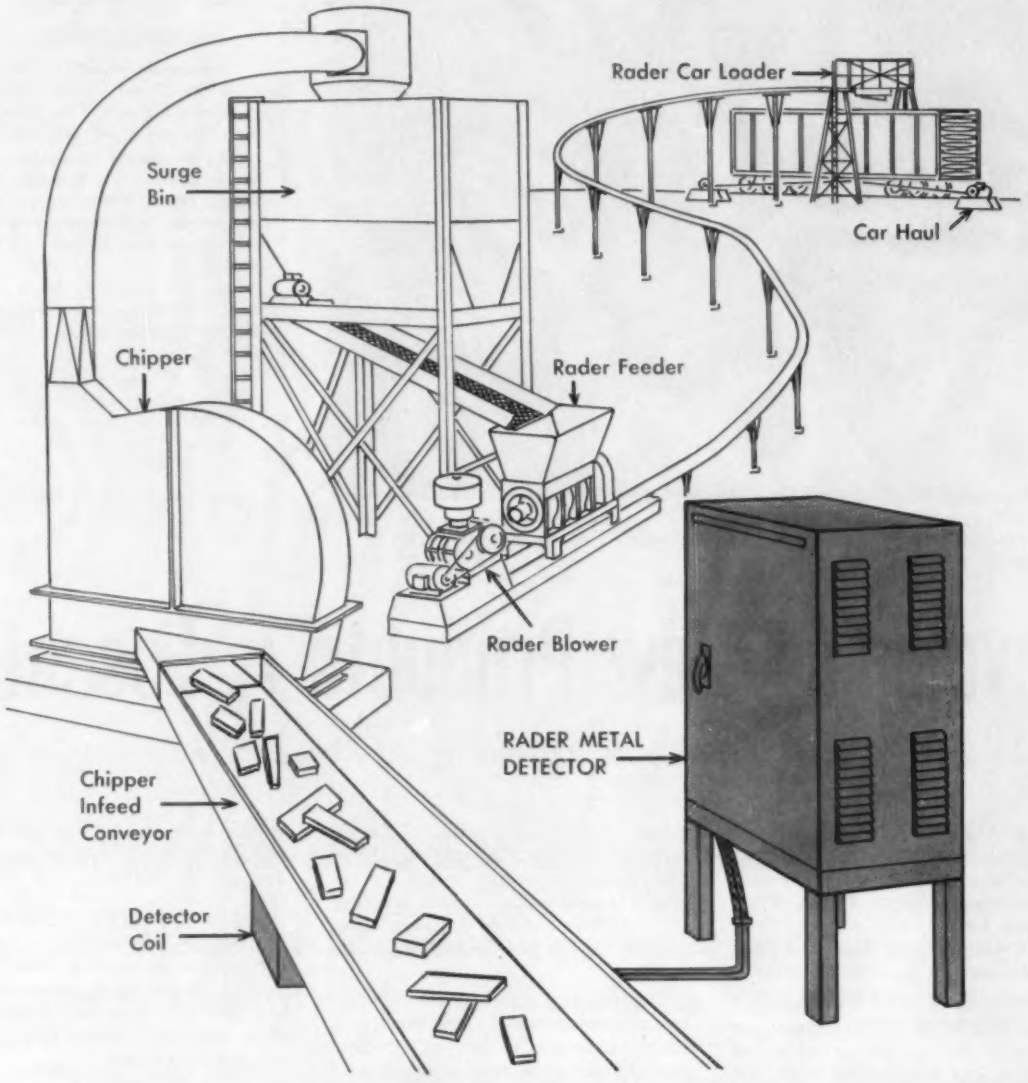
TYPES OF PANELS

- **Flakewood: Long fiber flakes of lauan, birch, cedar, fir and pine.**
- **Ven-O-Wood: Veneer faced standard pressed board; lauan, birch, maple.**
- **Flakewall: Competitive board using only Douglas fir flakes.**
- **Standard industrial pressed board, primarily for core stock.**

UTILITARIAN uses for *Flakewood* have expanded rapidly. Here the industrial application is shown for door construction in laboratory cupboards and cabinets. Has many such uses for schools, offices, plants, home basements and numerous places where a ¾″ thick wearable panel is needed. Surface is quickly finished in natural tones, may be painted and rubbed for unusual effects or completely painted over. Highly adaptable too for shelving and for background window displays for special effects.

PLANT FACTORY consumes considerable quantity of standard flakeboard in manufacture of kitchen cabinets. Above photo shows gluing and layup of three different types of wood products into a single finished item. The 5-ply door has solid wood lumber core; two crossbands 3/32″ flakeboard with faces of birch veneer. Thus unusual product integration of three important products coming from three different International Paper Co. plants is achieved.

ATTRACTIVE PACKAGING has been one of the strong points in merchandising Long-Bell's board products. Not only are the panels, tiles and planks well padded by paperboard cartons and praper wrapping, but they are colorfully and factually labelled for convenience of building materials dealers and the consumer. Here again is further integrated product use. International Paper Co.'s own paperboard products are utilized to package their own products.



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protects equipment, reduces costly down time!

Rader Metal Detector prevents nonmagnetic as well as magnetic metal objects from jamming and ruining costly gears, teeth, blades, and knives. This reliable sentinel stops conveyors when metal passes over the detector coil. It will also activate any electrical circuit to stop chippers, sound alarms, or flash warning lights. The prevention of damage to machinery from one or two pieces of metal could more than pay for the Detector.

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RANDOM PLANK interior paneling provides unusual attractive design for dining room wall. Vertical V-groove gives random pattern. Punched board provides facing for room divider at left.

PRODUCT IDEAS . . .

"Idea sources are not confined to the home office," says John W. Cain, merchandising manager. "Our ideas stem from any place we can get them.

"We get many of our best ideas from our sales force. The salesmen are in regular contact with our office people and are able regularly to pass on ideas and requests from our customers in the field.

"We don't live in the clouds by any means. To do any further work on an idea we have four criteria to which it must conform.

"1. Does it meet a specific need?
"2. Can it be practically produced?
"3. Can it be practically marketed?
"4. Can it be advertised and promoted?"

Developing New Products is Essential

Product multiplicity, an answer to hardboard marketing at Forest Fibre

BY STAYING AHEAD of the market through research and ironing out production problems well in advance of marketing crimps, Forest Fiber Products Co., Forest Grove, Ore., keeps a well rounded line of diversified products to provide their sales force with the best of weapons.

Their line is not left to chance, the vagaries of the market, or whims of the sales and production staffs. A teamwork effort provides for new products as well as shortcuts in present production.

The program has paid off with such industry leading innovations as: first pre-finished, sandalwood-colored hardboard; textured exterior hardboard; tongue and groove hardboard panels; temper-treated, sealed hardboard in ⅛" thickness.

The company started production in 1949 with standard hardboard. Soon added were Punched hardboard, tongue and groove, striated, and laminated. Then along came Sandalwood which has grown into practically a generic term for a light colored, prefinished hardboard.

Monthly "new product development" meetings are held. Attendance at these sessions include the general manager, sales manager, merchandising manager, plant superintendent and technical director. In addition to general discussion work, specific problems are assigned individuals for later reports. The assigned personnel prepare briefs for presentation at a later meeting.

Occasionally planning and research looks years ahead. In this event it is often necessary to pre-sell or pre-educate the consumer to the use of new products before they are offered on the market.

Like most hardboard manufacturers, Forest Fiber has limitations which often require adding more production equipment before a specific new product can be produced.

RIGID QUALITY CONTROL of existing products is vital to maintaining established markets. Quality control is exercised in all production steps and quality is constantly tested in the plant laboratory where new products are also developed.

Once the product has been perfected, selling becomes the important factor. As marketing has been of prime

(Continued on page 63)

PANEL SIDING is of ⅜-inch thickness, tough, workable, stable, paintable. Provided in both tempered and sealed. Is one of thickest hardboards produced. U-grooved siding is newest in line, for interior or exterior use.

How Dodge saves you money by matching your truck to your needs

Dodge medium- and heavy-duty trucks have always been built from a wide range of "Job-Rated" components to match a truck exactly to your job. This means that you aren't forced to pay for capacity you don't need, and you don't get undersized units that shorten your truck's life. Just look at the range of components today's line of *Power Giants* offers:

In power, there are Sixes from 125 to 141 hp., Power-Dome V-8's from 204 to 234 hp. Exclusive Power-Dome V-8 design reduces harmful carbon deposits, greatly reducing the need for engine overhauls to maintain maximum power.

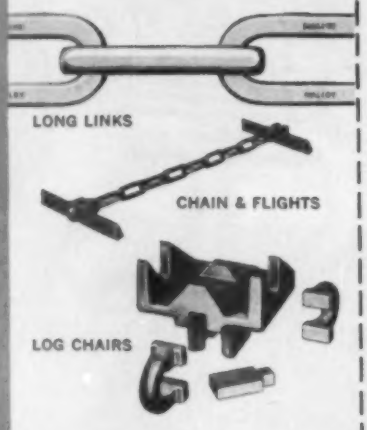
In payload, numerous Dodge medium- and heavy-duty models offer G.V.W.'s from 11,000 to 46,000 lbs., G.C.W.'s from 30,000 to 65,000 lbs. in gradual steps. A wide range of "Job-Rated" axles, transmissions, tires, springs and other components makes possible gradual increases in capacity and assures you a dependable, economical truck because it fits your job exactly.

In economy, Dodge provides the thriftiest and most efficient engine and transmission combinations. A range of eight engines and eight transmissions, including automatic Torqmatic, makes this possible. You save on gasoline, too, because Dodge engines operate efficiently on regular gasoline!

Priced competitively throughout the line, in many models Dodge is priced *lowest!* No matter what Dodge *Power Giant* your job calls for, you'll be agreeably surprised at its thrifty price tag. See your Dodge dealer soon, and get his special 40th-Anniversary deal!

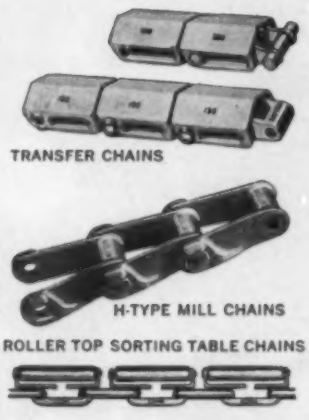
DODGE *Power Giants*

LOGGING



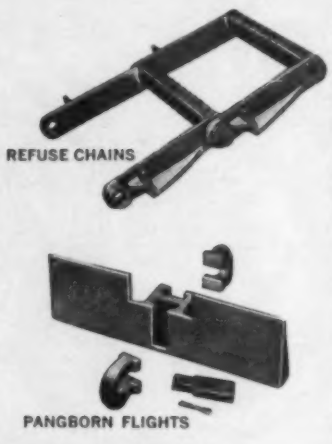
Moline's *long link* Malloy Chains can be used on conveyors with longer "centers." They will not stretch out of pitch because they have a 20% greater cross sectional area than ordinary round links.

MILLING



Other accepted standard Moline Mill Chains are Transfer Chains for transfer table service... H-type Mill Chains for drives and conveyors... and Roller Top Chains for the lumber sorting table.

HANDLING WASTE



For handling waste wood, saw dust and pulp, specify Moline Refuse Chain. Pangborn Flights have "keyed" loops which lock into Moline Long Link Chains.

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Chains
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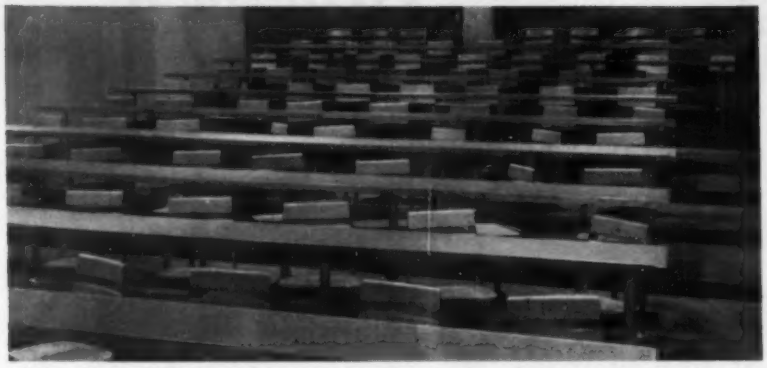
Los Angeles	J. W. Minder Chain & Gear Co. 6011 So. Central Ave., ADams 3-7221
San Francisco	Charles A. Fowler Co., 979 Bryant St.
Arcata	Reliable Hardware, VAndike 2-0378
OREGON	
Portland	J. W. Minder Chain & Gear Co. 307 S. E. Hawthorne Blvd., BElmont 6-1131
Astoria	Fisher Bros. Company, Phone 2750
Eugene	Electric Steel Foundry Co., Phone 4-6171
Grants Pass	Pacific Logging & Mill Supply Co., Box 323, Phone 4071
North Bend	Industrial Steel & Supply Co., Phone 5-3821
Salem	Mill Supply Co., EMpire 2-6989
WASHINGTON	
Seattle	Chain Gear, Inc., 822 Ave. South, MAin 7000
Yakima	Chain Gear, Inc., 502 South First St.
Bellingham	Schuman Steel Prod., 1801 Franklin Ave.
Everett	Greenshield's Ind. Supply, 710 Highway 10 North
Longview	Longview Equipment Co., 1005 15th Ave., Phone 5605
Seattle	Electric Steel Foundry Co., EL 4161
Spokane	Nott-Atwater Co., So. 157 Monroe
Tacoma	Reel Machinery Co., 2324 E. 11th St., FUlton 1616
CANADA	
Vancouver B. C.	Western Equipment Ltd., 102 Main St., TAtlow 2331
Victoria B. C.	Western Equipment Ltd., 2003 Government St., GA 1413



DESK TOPS in school lecture room are of light-colored Sandalwood board providing smooth writing surface as well as high durability. Has also found wide use in schools for wall paneling.

consideration in products planning, this means moving it in a pre-determined market and the developing of new markets in the process.

To do this, Forest Fiber sells its products in the Western states with salesmen in Los Angeles and San Francisco, Calif., Portland, Ore., Seattle, Wash., and Denver, Colo. Efforts of the salesmen are backed by a substantial advertising and promotion budget which includes trade journal advertising, billboards, exhibits, literature, direct mail and point of sale work such as product samples and displays.

MANAGEMENT TEAM

Company management includes: Harold A. Miller, president; F. M. (Tom) Hughes, general manager; Henry B. Jacobsen, general sales manager; Fred E. Kirby, assistant sales manager; John W. Cain, merchandising manager; Eugene Tower, plant superintendent; Keith Kruse, technical director; and Jack Mulholland, quality control supervisor.

Salesmen call on retail lumber dealers, architects, builders, applicators and others in the trade as well as counseling and assisting distributor's salesmen. Company salesmen also organize meetings of these groups during which they outline the company's various products and show product movies.

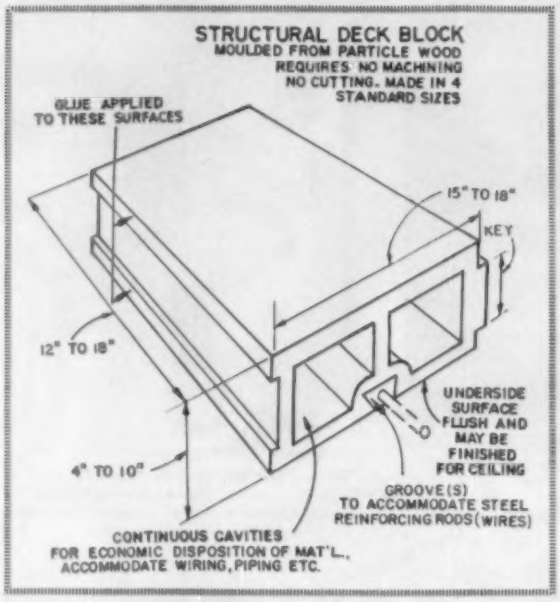
In addition to the general promotion work the salesmen assist distributors with inventory control. Distributors push the products in every major U. S. trading area.

FOREST FIBER'S STABLE of products includes: *Standard*—light tan in color, smooth durable surface on one side and screen texture on the other, recommended for interior and protected exterior uses such as wall board, ceilings, cabinets, soffits and porch ceilings; *Temper-Treated*—with a washable surface which may be used without painting in some cases; equipped with a prime coat, furnished in Sandalwood, a light baked-in, blond finish, or chestnut brown; *Tongue & Groove*—16″ wide by 96″ tongue and groove panels for fast, easy installation, available in either Standard or Sandalwood finish; *Random Plank*—random V-grooved patterns with Sandalwood or Temper-Treated finish for interior or exterior use, shiplap edges; *Forestex*—light tan, striated panel for both interior and exterior, decorative panel for walls, wainscoting, siding, it is extremely durable; *Forall*—laminated hardboard with two smooth surfaces, furnished in both Standard and Sandalwood surfaces; recommended for cupboard and sliding doors, counter tops and shelving; *Thriftwood*—light tan in color, a lighter density than Standard, but of the same general characteristics; very low cost; *Underlayment*—also light tan in color, textured side planed to precision thickness (.215″) to provide a uniformly smooth panel for repair of badly worn floors before applying floor covering; *Concrete form*—surface and edge sealed, given additional temper-treating for re-use in concrete form work; *Punched*—available in Temper-Treated or Standard; Temper-Treated available in Sandalwood or chestnut brown colors, recommended for acoustical treatment, decorative paneling, ventilation and displays; *Panel Siding*—produced in 3/8″ thickness, tempered and sealed, plain or with decorative, grooved design; tough, workable, stable, paintable board for exterior applications, no moisture equalization necessary, can be applied directly from package to house without conditioning.

FORALL provides smooth two side surface. Ideal for kitchen cupboards. Fabricated by laminating two sheets of hardboard together.

TEE-N-GEE used for living room paneling lends warm appearance to room. This is Sandalwood finish. Also available in regular.

HAMMER wielded by small boy fails to mar appearance of Forestex, striated hardboard. May be used for exterior use as well.



TYPICAL COMPONENT block, suitable for load bearing deck as floor or roof. It is hollow, cavities permitting space for wiring, plumbing and insulation. It may be mass produced automatically, exactly to dimensions. The material requires no further machining of any kind. The shell walls and web are the same density and strength now commonly used or produced by particle board plants. On the underside, the block has one or more grooves to accommodate the re-enforcement, which may be steel rods or wires or other new material which may be developed or is more desirous of use. Many variables can be produced.

Structural Particle Wood

can become an important product for manufacturers of particle board

By

ARTHUR KALAGES, A.M.I.E. (Aust.) B.Ec.

G. K. Ellerton & Associates Pty. Ltd., Sydney, Australia

Arthur Kalages is a professional engineer. The past 12 years he has been sawmill engineer for Murdock and Murphy sawmillers in Victoria, Australia and in building materials with Porter and Galbrath Ltd. of Sydney. He has just completed 12 months in the United States studying American methods and techniques and working with management consultant firm in Chicago and with industrial plant designers in San Francisco. His experiences combined with his knowledge of particle wood has convinced him that it is entirely feasible to produce structural members of particle woods in combination with re-enforcement.

IF PARTICLE WOOD can be applied to building construction as a load bearing material, vast new markets will be opened up for this type of product. Above all, particle wood will have a comparative price advantage.

The greatest lack in particle board, comparatively, is its tensile strength. It is apparent that if particle wood is to be employed in the manufacture of fully load bearing structural members, it must be combined with structural re-enforcement to build up its tensile strength. The possibilities are to use an admixture of the material with high tensile strength. Such material might be fiber glass or other inorganic fibers capable of withstanding heat. For high strength, material such as steel, wire or rods can be used.

Immediately we are confronted by the difficulty of producing such a "standard" combination to meet a virtually infinite number of variations in sizes and loading. Beams, panels and columns will be required of various lengths and for all kinds of imposed load conditions.

One way to meet this condition is to employ a smaller component unit as the truly standard part. This leads basically to a "component block system."

BASIC IDEAS THEN behind using of block component system for the manufacture of structural members are to provide for variation in end-product without variation in the standard components. This will enable complete prefabrication, not only of structural members, but also of arrangements or assembly of such members, including finishing, to simplify the mechanics of production and assembly.

It will be noted that in the few illustrated in this article, both top and bottom faces are flush and ready for the application of the surface finishing materials. For instance, the top surface may have tiles or parquet squares applied to it and the underside be finished for ceilings. The component blocks are keyed together in the system.

As such, panels will generally be custom made, producing to the required length presents no problems. Varying load conditions are provided for by varying the depths of the component block, or by varying the amount of re-enforcement in the grooves, or by a combination of both.

The blocks as illustrated are also only typical, as many variations are possible. The best block will be the one designed with due regard for ease of manufacture, wall thickness, material density, number or position of webs, shape to effect interlocking or keying, or harmoniously arranged to satisfy the load condition, gluing requirements, and other conditions.

PANELS CAN BE COMPLETELY prefabricated at the factory, at an immediate distribution point, or at the site itself. This mechanized assembly will involve far less labor than will be equivalent for orthodox construction at the site. Also materials costs will be less as the component blocks can, on a volume or weight basis, be produced and supplied at a cost less than other products.

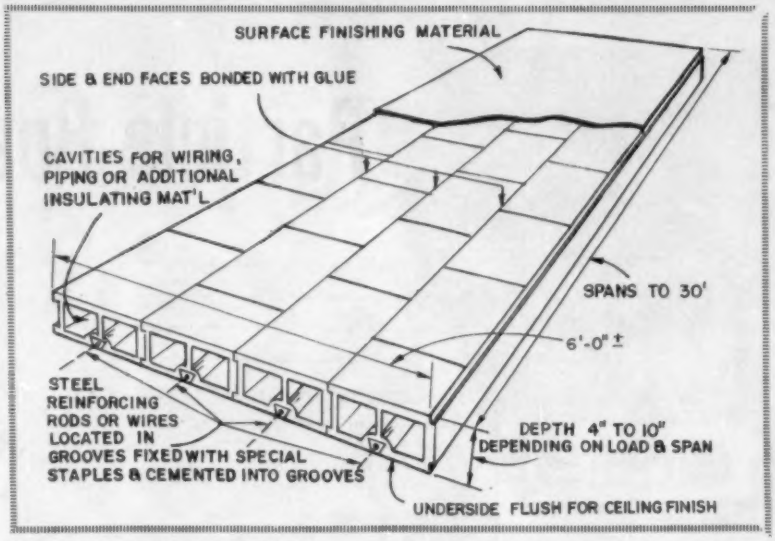
If prefabrication is to be complete it will require finishing operations. It is, therefore, proposed that these panels, when applied either as floor or ceilings or roofs, have their final surface material completely applied at the time of prefabrication. For example, a selected pattern of floor tiles can be applied much more exactly and easily in the factory, than by their individual applications at the site.

This technique uses such patterns pre-assembled by their manufacturer on a backing material of mesh, and which then can be directly glued to the floor surface in large sheets matching the panel sides. Similarly roofing panels can have built up asphalt roofing or shingles, applied in the plant by fully mechanized means at a fraction of the equivalent site cost.

When panel or beam systems are used in conjunction with steel framing an easy way to affect the connections is to mold special connector plates of steel into the component blocks which are located at the anchor end, then electrically welding these to the steel building frame.

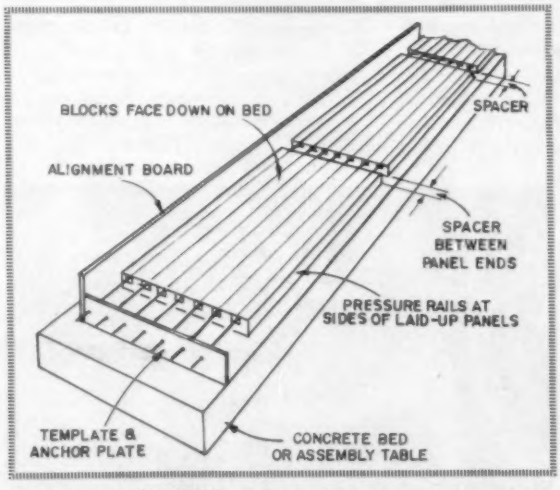
THE TECHNIQUES OUTLINED in this proposal are an amalgum of recent development in the wood products, building and other industries. Today we have the inevitable trend toward more prefabrication and automation thus a market with increased willingness to accept new products, and machine made products. We have a growing particle board industry producing a constantly improved material and capable of producing products made of this material at a cost increasingly below that of equivalent building material. We have some excellent new developments in glues and gluing methods, and finishing materials, which enables us to readily assemble small units into large monolithic arrangements of almost any shape or size.

All these things combined should convince us that the particle wood industry today is on the threshold of a far greater potential. To apply particle wood to the fabrication of structural load bearing members, is only one step toward this potential.

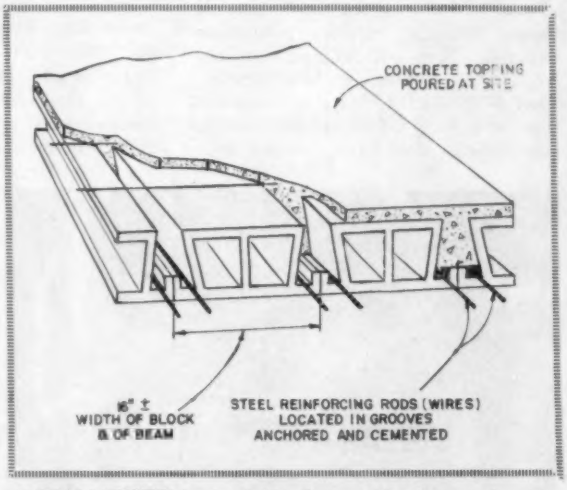

SURFACE FINISHING MATERIAL
SIDE & END FACES BONDED WITH GLUE
CAVITIES FOR WIRING, PIPING OR ADDITIONAL INSULATING MAT'L
SPANS TO 30'
6'-0" ±
STEEL REINFORCING RODS OR WIRES LOCATED IN GROOVES FIXED WITH SPECIAL STAPLES & CEMENTED INTO GROOVES
DEPTH 4" TO 10" DEPENDING ON LOAD & SPAN
UNDERSIDE FLUSH FOR CEILING FINISH

A TYPICAL PANEL ASSEMBLY. The component blocks are glued at their end and side faces. Size of panel is limited only by the handling facilities available. Each panel may be custom made to length specifically required and thus no waste of material. Re-enforcing wires or rods are cemented or glued into the grooves on the underside of the panel. Load transfer is effected by one of several available materials of fixing this wire into the block system by a special staple.

Both top and bottom faces are flush and ready for application of the surface finishing materials, which may be tiles or parquet squares. The underside can be prefinished ceiling. Variations can be made for sheathing, floors and roofing.

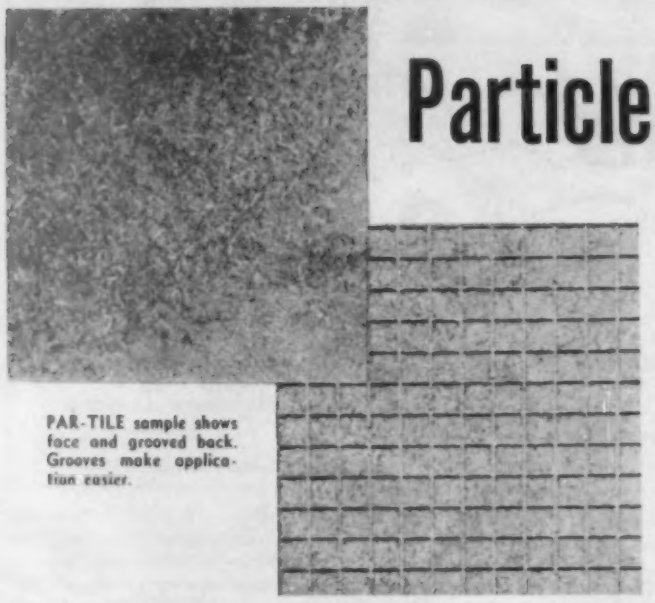

BLOCKS FACE DOWN ON BED
SPACER
ALIGNMENT BOARD
SPACER BETWEEN PANEL ENDS
PRESSURE RAILS AT SIDES OF LAID-UP PANELS
TEMPLATE & ANCHOR PLATE
CONCRETE BED OR ASSEMBLY TABLE

TYPICAL ASSEMBLY method where large volume is involved. Required panel lengths are marked out on bed or assembly table face. Blocks are laid face down to correspond with lengths, with spacers between panel ends. Blocks can be pre-coated on faces with glue, catalyst added at time of assembly. Alignment is assured by laying blocks against alignment board at one side of the bed. Immediately after layup, pressure is applied at sides and ends of assembly system. Re-enforcing steel wires are laced into grooves, fastened with special staples at regular intervals and grooves filled with quick setting cement.


CONCRETE TOPPING POURED AT SITE
8" ± WIDTH OF BLOCK & OF BEAM
STEEL REINFORCING RODS (WIRES) LOCATED IN GROOVES ANCHORED AND CEMENTED

A BEAM SYSTEM containing the re-enforcing steel necessary to the final load bearing requirements, yet one which itself has to be strong enough only to support a fill or screed of concrete. The final loading is really supported by the concrete and steel, that is, it has a re-enforced concrete deck. Again there is a flush underside, ideal for ceiling finishes and cavities in the panels suitable for wiring and plumbing. It is particularly suitable for industrial and institutional building construction. Blocks are manufactured into self-supporting beams containing all the required steel. Many variations of blocks and beams are feasible.

Particle Board Floor Tile



PAR-TILE sample shows face and grooved back. Grooves make application easier.

Produced from residues at Pacqua, Inc. plant proves

- **Attractive**
- **Hard Wearing**
- **Stable**
- **Abrasion and Impact Resistant**

VENEER RESIDUES are being converted into attractive hard-wearing floor tile at the Pacqua, Inc., division of Pacific Plywood Co., Dillard, Ore.

The particle board tile has a density of 55 pounds per cubic-foot, hardness equal to that of hardwood flooring with greater dimensional stability and greater resistance to abrasion and impact.

Initial production is in ¼-inch thicknesses in conventional 4x8-foot sheets and is included in the particle board plant's regular production schedule. It is later cut into the tile squares by table saws. Most production is in ¼x9x9-inches conventional tiles with the product also being made available in sizes from 8x8-inches to 12-inch squares, and in other thicknesses.

Grooves are cut in the back faces of the tiles, spaced on ¾-inch centers. These grooves provide flexibility for ease in laying the tile and allowing it to conform to any irregularities of subsurfaces. Shipping weight is also decreased.

In addition, an outer saw on each side of the grooving machine provides a mortised edge to the tile to provide a pocket to absorb excess mastic between tiles. This discourages the mastic from oozing up between tiles.

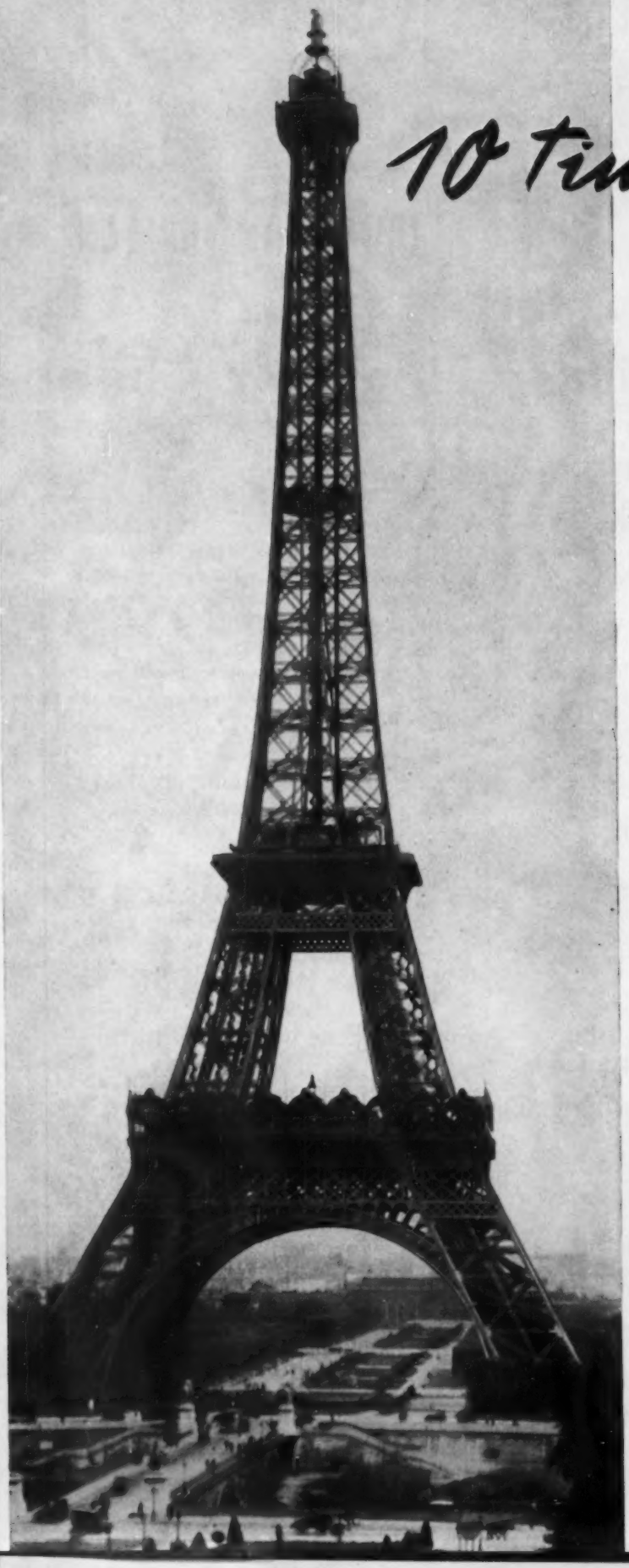
Grooving is done on a multiple saw as the tiles are fed by an automatic feeder with an offbearer stacking them. Each stack currently is given a quarter turn and fed through on a second pass to form the grooves in squares until a second machine is installed to groove in both directions.

Following grooving, the tile is transferred to a packing table where light boxes are provided for inspection of each tile for surface and machining defects, after which it is boxed. The ¼-inch tile is packed 80 tiles to a box. The brand name "Par-Tile" is prominently displayed on the packing cases for product identification.

Pre-finished tile is manufactured and sold as well as packaged finish and mastic which is also marketed by Pacqua. Prefinishing equipment in the production line is being developed by the company for future expansion.

GROOVING is done on Jenkins tenoner. Tiles fed through machine for one pass and then fed other direction to make grooved squares. Second machine slated for later installation.

GRADING panels done at light table. Close checks made for defects or imperfections after which tile is packed in cartons for shipment. Overhead chart provides grade points.



10 times higher

than the Eiffel-Tower

would be a massive column of

particle boards

on a surface of 11 square feet,

resulting from the

daily output

of the production machines

we now have under construction.

A testimony of confidence of

our customers.

A testimony of the great efficiency

of our company.

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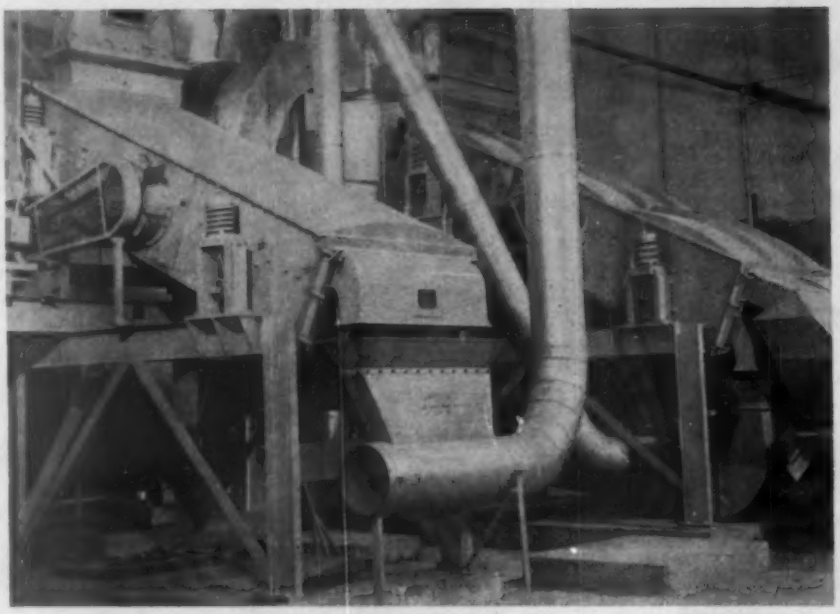
GYROSET VIBRATING SCREENS

for

Flake & Shaving Digester Chip



New Pope & Talbot, Inc., $1.5 million particle board plant, Oakridge, Oregon. 4x12–1 Deck and 5x14–2 Deck base mounted, enclosed GYROSET *Screens.*

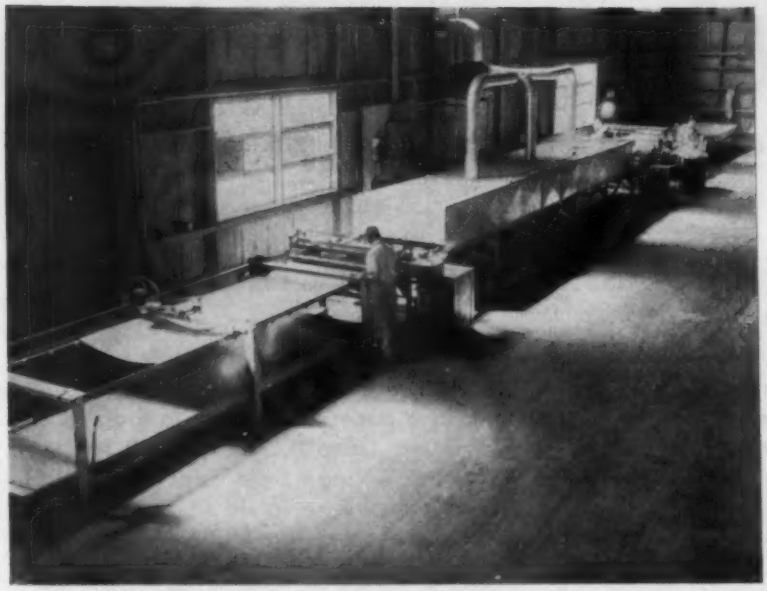
- Positive 2-Bearing Eccentric Action – **Adjustable** Eccentricity Permitting Stroke to Suit Particle Shape and Size.
- Action Hard Enough to Remove Sawdust and other Fines.
- Action Gentle Enough Not To Upend Slivers, Desirable Pegs, etc.

PRODUCTIVE EQUIPMENT CORP.

Manufacturers Exclusively of Vibrating Screens For 30 Years

2926 W. Lake Street **Chicago 12, Illinois**

In Canada: Canadian Locomotive Co., Federal Building, Toronto, Ontario



PRE-SEALING LINE at Oregon Lumber Co., Dee, Ore., contains mainly Grenco, Inc., units.

Pre-Sealing of Panels

is accomplished with one man, means new markets for easily painted panel

A CONTINUOUS one-man operation in pre-sealing of Allwood, the hardboard produced by Oregon Lumber Co., Dee, Ore., was recently added.

Utilizing principally Grenco, Inc., equipment, panels are buffed, sealed, cured and automatically stacked in an extension of the firm's tempering department.

According to William J. Runckel, plant manager, "Today's market requires furnishing a pre-sealed product. Our Heatherbord pre-sealed board will find specialized uses such as school paneling where no further finishing is required. Its prime selling point, however, is its easily-paintable surface."

Alkyds or diatomaceous earth are introduced in a linseed oil carrier to fill out the minute face voids along with the paint coating.

The equipment operates at 40 feet per minute and is capable of sealing 7,500 square feet per hour. Oregon Lumber's planned sealing production is 20% of their overall 4½ million foot monthly output.

The 4x16 foot panels are placed on two in-line Globe scissorlifts. At present a man is feeding the line, but an automatic feeder is contemplated. After the feeder addition, the one operator will oversee the equipment operation and paint mixing. The line will be entirely automatic.

The panels feed through pickup rolls and under a nylon brush where they are dusted to insure sealer adhesion. Power rolls then convey them under infra-red lights which pre-heat the panels after which they feed through a Black Brothers 50-inch modified plywood glue spreader where a very thin coat of the sealer is spread. The paint sealer is pumped to the spreader as required by a Binks air-operated pump.

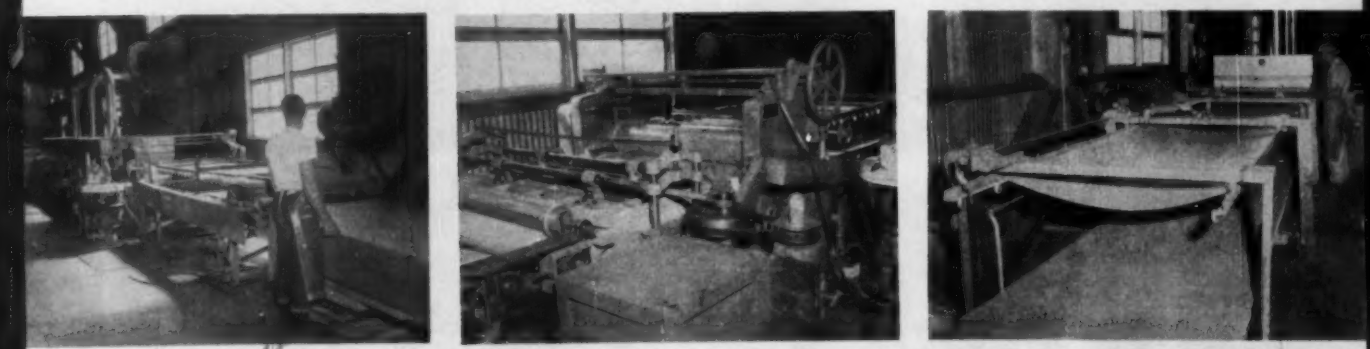
From the spreader, the panels go through a wet-buffer which utilizes carpeting fastened to an oscillating head to buff the paint into the board to insure uniform spread.

From the buffer the panels are chain-conveyed through the Grenco 30-foot drying tunnel where 40 2,000-watt infra-red fused quartz lights heat the board to 250°F. to cure the paint. At the normal operating speed of 40 feet per minute, panels spend 45 seconds in the drying tunnel.

At the offbear end of the tunnel a second buffer finishes the board before it offbears to the company-built stacker. Both buffers were built by Grenco.

The stacker utilizes a length of angle iron on each side of the panel with a Modernair air cylinder tripping the angle iron to drop the panel into the stack when triggered by a Microswitch at the far end. Skate wheels are mounted on the angle iron on which the panels roll across from the buffer.

A Hyster ZA-80 lift truck furnishes stacks at the feed end and moves stacks from the stacker to storage.



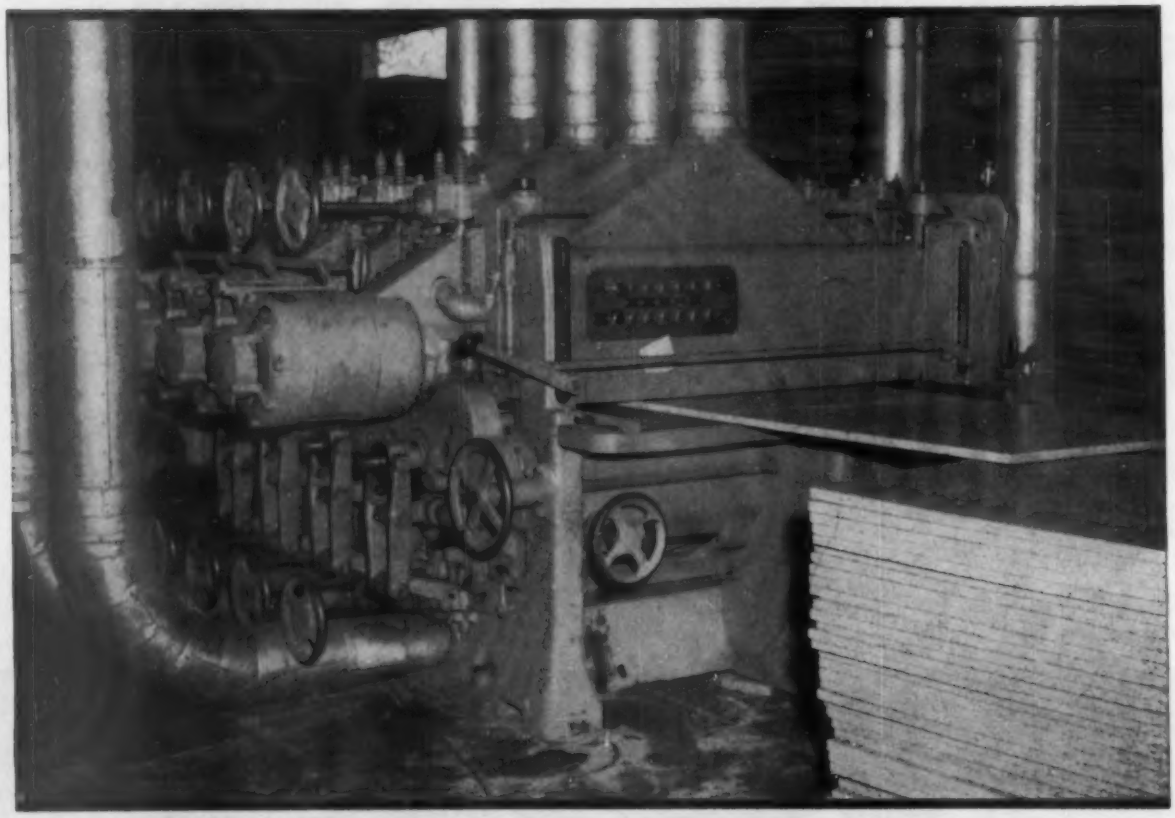
UNITS OF PRE-SEALING LINE. At left is feed where panels move through nylon brushes for removal of dust to allow a good seal bond. Preheater and spreader follow. In center, Black Bros. 50-inch spreader where thin coat of filler and paint is spread. Oscillating buffer at center works seal into pores before panels move on to curing tunnel. At right is automatic stacker at offbear end which receives panels. Angle irons at left and right are kicked outward by air valve, drop panels onto the stack. The Microswitch at left triggers the valve.

"Sanding," says Korboard Division, "with the

YATES-AMERICAN S800,

is ideal for finishing particle board."

This Yates-American roll feed sander takes the problems out of particle board finishing—providing the extremely close tolerances required for trouble-free, fast laminations. There's no tear-out of chips! In addition, sand paper life is good—averaging up to 1500 hours for the first two pairs of drums, up to 700 on the third pair, and up to 200 on the fourth pair. These are actual operating figures established by important particle board producers. Write us for the complete story. There's profit in particle board when you finish it with a Yates-American roll feed sander.



YA 75th

At U. S. Korboard, High Point, N. C., this Yates-American S800 Roll Feed Sander, serving a battery of four Lane type presses, produces surfaces fine enough to permit direct lamination of decorative finishes.

WOODWORKING MACHINERY MANUFACTURERS ASSOCIATION WMMA

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Flapreg a new high density, distinctive particle board developed at Washington State College is called "wood marble" by many in the industry

A PRODUCT with the near-durability and appearance of marble with machining qualities of metal and made of wood residues. That describes the new Flapreg (contraction of flake and impregnated) developed at Washington State College, Pullman, Wash., by John W. Talbott, WSC junior wood technologist.

Dr. George G. Marra, head of the college's wood technology department, started Flapreg development with the goal of producing a dimensionally stable product for pattern and die stock, but initial public interest has leaned toward Flapreg's pleasing appearance. Some enthusiasts have dubbed it "wood marble."

INITIAL GOAL of Dr. Marra was to develop a product similar to "Impreg" and "Compreg" which make use of hardwood veneers impregnated with resin and pressed to high densities. However, he wished to use wood flakes instead of veneers in order to utilize low-cost wood residues. A major stumbling block in this early work was the impregnation step which always ended in a sticky, unmanageable mass of flakes.

Last year the Flapreg project was turned over to Mr. Talbott who evolved a pilot process similar to conventional particle board and flakeboard production with the major differences of higher resin content, a secondary drying after resin introduction and higher pressures in pressing.

Production has been strictly pilot plant with college officials presently formulating a licensing policy to license the production to private industry.

Mr. Talbott produces his flakes on a 30-inch laboratory disk flaker, using green mill residues. He found that the wood must be either green or remoistened to near-fiber-saturation to minimize curl and flake breakage.

AVERAGE FLAKE SIZE is .008 inch thick with a width of ¼ inch and a length of ½ inch. Length and thickness are controllable with widths variable. The thin flakes, with thicknesses of but four or five tracheids, allow comparatively easy resin penetration—a required attribute for Flapreg.

Mr. Talbott experimented with knife angles and feed angles on the flaker. He found that a 45-degree angle of feed of the wood to the knives produced the most desirable flakes.

FLAKES ARE DRIED to a very low moisture content, in the order of 0% to 5% so as to allow easier resin penetration.

Introduction of the Borden's Compregnite resin or Monsanto's PF 594, water soluble phenol formaldehyde resins in a low state of polymerization, is made in a rotary drum mixer.

FLAPREG SAMPLES are shown by Dr. George G. Marra, head of Washington State College's wood technology department, where the new product is now in pilot plant production.

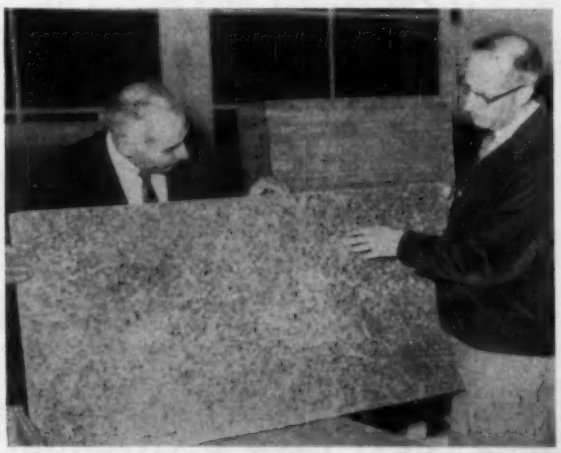
For efficient flake felting it is important that the flakes do not become tacky. This problem was solved by spraying the resin for 10 to 15 minutes during tumbling so that the rate of spraying was nearly equalled by the rate of resin absorption and no tackiness developed.

MORE RESIN than required for saturation of the cell wall structure is used so that in the heavy pressures applied in pressing, the resin will flow to fill any possible voids. The high pressures compress wood nearly to its limit so that slight density variations in the board might lead to small areas containing intracellular air voids. The excess resin fills the voids.

About 35% of resin solids, on the basis of dry wood weight, are added.

(Continued on page 72)

THICK MAT is necessary to secure high density panel. Berthelsen 1200-ton 50x50-inch press is used. Polished aluminum cauls provide two smooth faces.



FINISHED PANEL is shown by Dr. Marra, left to Dean Sherman, editor of *The Lumberman* during Mr. Sherman's study of board producing plants and methods.

Flapreg *(Continued)*

After impregnation, the flakes are again dried to a moisture content of ¾% using a temperature below the curing range of the resin. Very low moisture contents require higher consolidation pressures, but the board's strength properties are increased.

FLAKES ARE felted onto cauls in a laboratory-built felter; however, conventional commercially-built flakeboards felters could do the job. Mat thickness required is about eight inches per inch of finished board. A cover caul is also used.

Pressing is done at pressures ranging from 1,500 to 2,500 psi varying with wood density, moisture content and the amount of excess resin used. Gradual increase to maximum pressure over a two or three-minute period appears to aid in elimination of air voids.

Phenolic resins used for impregnation are comparatively slow-curing requiring 15 to 24 minutes at 300° F. for complete cure.

PRESS COOLING before pressure releasing is utilized to prevent blistering. Reducing the temperature to 200° F. at the board's center proved sufficient for the small experimental boards made at WSC. Mr. Talbott believes that at low moisture contents it might be possible to eliminate the cooling cycle if a high surface finish is not required.

Flapreg produced under the following experimental production conditions has been evaluated for physical properties: raw material, Douglas fir; moisture content at pressing (dry wood basis) 7%; pressing temperature, 325° F.; pressure 2,500 psi; curing time, 25 minutes; cooling time, 5 minutes; final board dimensions, ½x3x10 inches.

PHYSICAL PROPERTIES were as follows: specific gravity, 1.39; modulus of rupture 13,170 psi; modulus of elasticity 1,910,000 psi; internal bond, 1.097 psi; thickness swell 24-hour soak, 0.42%; water absorption 24-hour soak, 0.44%.

Dr. Marra says, in outlining the high points of the product, "In addition to the low-cost raw material of sawmill residues, Flapreg has the advantage of machine production, while other products of the type require considerable hand work."

"Flapreg has high dimensional stability. One of our first thoughts of use was for die and pattern stock. There are possibilities that it can be moulded, as well as pressed into flat sheets. The production of institution and home furniture such as coffee tables can take advantage of its durability and hardness as well as Flapreg's inherent wood beauty.

Dr. Marra suggests another possible use as wainscoting in institutional buildings in uses similar to that of marble.

PRODUCT has a very durable surface and can be re-surfaced at any time. No edge treatment or trim is needed for counter-tops. The product's hardness and abrasive qualities require carbide saws for cutting and holes must be tapped to receive screws.

Flapreg has high density, gloss, extremely high resistance to moisture and, consequently, high resistance to warping and swelling, and high fire resistance. The material could well find its way into shipbuilding as well as airplane propellers, cutlery and tool handles and golf club heads.

SPECIALIZED USE is being made at WSC where the material is being installed under an atomic reactor as a moderator and reflector to absorb and reflect stray neutrons. For this purpose it substitutes for either graphite or wax which are generally used, but Flapreg has the additional advantage of being structural. With Flapreg no additional structural materials are needed in the installation.

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AND FIR FLAKEWALL

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Decorative Paneling

PHILIPPINE MAHOGANY FLAKE
FIR FLAKE... MAPLE FLAKE
PINE FLAKE... CEDAR FLAKE

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Long-Bell's New T & G Joint Is Designed to Permit Blind Nailing for Ease of Application

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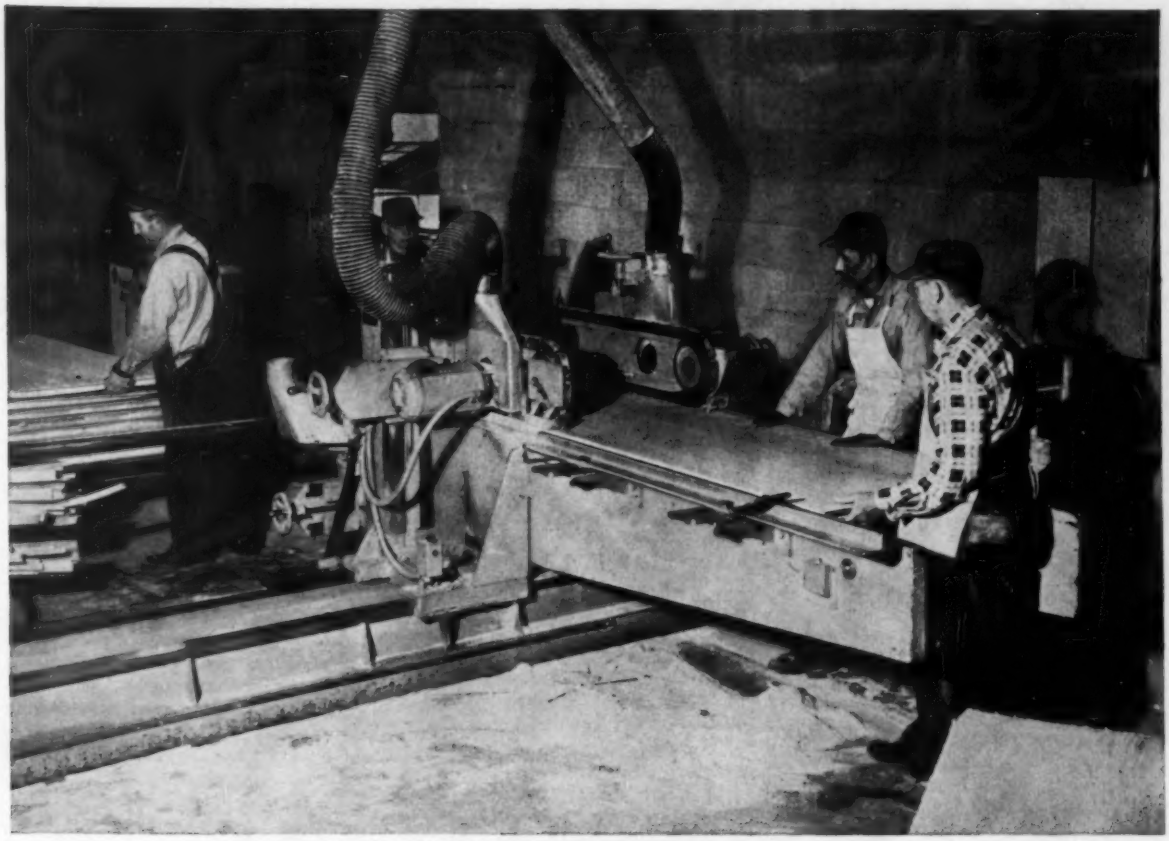

Lakeland Door Company, Trims Doors and Operating Costs with a Mereen-Johnson No. 600 DOUBLE CUT-OFF SAW

"We've realized big savings since our Mereen-Johnson No. 600 Double Cut-Off Saw was installed three years ago," according to B. A. Kennen, Superintendent of Lakeland Door Co., St. Louis Park, Minn. "Our production capacity is up over previous sawing methods and we now produce over 600 laminated wood doors—trimmed both directions—in an eight hour shift. If necessary, we could produce up to 1,000 finished pieces in the same time and still keep within the required close tolerances."

Quick set-up time is a feature of Mereen-Johnson equipment as provided by a patented snap dog arrangement that allows fast adjustments to be made for varying size doors with a minimum of downtime. Since most of Lakeland's work is "custom-tailored" for individual home contractors, sizes may vary as frequently as every five to ten doors trimmed. This requires fast adjustments to maintain scheduled production. "In a normal shift we may trim as many as 20 different size doors."

While the No. 600 is of medium size, it is well suited for this type of operation and it displays all the quality and workmanship of much larger units. The basic construction of the No. 600 is compact and allows for fast, easy adjustments. Maintenance is practically nothing!

The No. 600 Double Cut-Off Saw is available with trims only—or with tilting cope motors and stationary dado arbor. Special attachments are available as optional equipment.

MEREEN-JOHNSON MACHINE CO.

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CUT-OFF SAWS	DOUBLE CUT-OFF SAWS	MULTIPLE CUT-OFF SAWS	GANG RIP SAWS
TENONERS	VENEER & PLYWOOD SIZERS & JOINTERS		RESAWS

For complete specifications, write for illustrated Bulletin No. 600-700.

OBITUARIES

B. S. COLE, general manager of the Rosboro Lumber Co. in Eugene, Ore., died May 2 at his home in Eugene. He was 66. Mr. Cole was born February 5, 1892, near Roxie, Miss. He worked for a number of years for the Caddo River Lumber Co. in Arkansas, becoming assistant general manager in charge of the four mills operated by the company.

Mr. Cole moved to the Eugene area in 1939 when Caddo built the Rosboro mill. He served as an executive with the Rosboro mill until 1945 when he became a part owner.

He is survived by his widow; two daughters, Ruth and Elizabeth; and a son, Paul, all of Eugene; and a brother, W. C. Cole of Chicago.

WALTER F. HEALY, 74, an authority on North American hardwoods, died May 14 at Jamaica, Long Island, N.Y. For 57 years Mr. Healy served as a consultant to leading lumber export firms until his retirement from A. M. Crombie & Co. in 1949.

JACK and EVE ROOT were killed early in May in an automobile accident in Montana. Mr. Root, 73, had been in the lumber industry for 50 years, 40 years of which were with the Anaconda Company, lumber department, at Bonner, Mont., where he had retired as general manager last fall.

Mr. Root had been active with the Timber Products Manufacturers Association and with the Western Pine Association.

A. T. MCDONOUGH, 69, plant superintendent of the Kirby Lumber Corp., Silsbee, Tex., died April 25 at his Silsbee residence. He had been in his present post since fall of 1956 and had a long and prominent association with the lumber industry.

Mr. McDonough came to the Kirby Corporation from Crossett, Ark., where for 15 years he was manager of the Crossett Lumber Co. Prior to joining Crossett, he was manager of Forest City Lumber Co., Pine Ridge, Ore., for seven years. He served in a similar capacity for the Parker County Lumber Co., Elmira, Tex. He served as a director in Texas for the Southern Pine Association.

Researchers Discuss Product Problems

Flexural properties of particle board can be made equivalent to plywood or lumber when a proper overlay is applied to the particle board, according to tests conducted by John S. Fujii.

Fujii, a University of Washington forest products graduate student, worked on the program which was sponsored by the American-Marietta Company. He reported findings at the Forest Products Research Society Pacific Northwest Section meeting at Corvallis, Ore.

He used the stressed skin concept in applying a high tensile strength facing which is able to withstand the concentration of bending stresses in compression and tension. One-eighth-inch thick Douglas fir veneer overlays tested with the grain parallel to the span provided the strongest material of those tested.

Increasing interest in white speck veneer prompted a strength and compression test by Raymond A. Currier, Oregon Forest Products Research Center, Corvallis. Currier reported pressure control during pressing could reduce compression of the sandwich. Compression increased with amount of white speck present.

The white speck plywood held up well during delamination tests. Currier credited this to the specks acting as stress relief.

The specific gravity of second-growth Douglas fir wood increased with the percentage of summerwood and tree age and decreased growth rate. So reported Milford McKimmey, assistant professor of forest management at Oregon State College, Corvallis in a study of the species in western Washington and Oregon.

Specific gravity is a guide to the modulus of rupture and other qualities of wood, according to McKimmey.

McKimmey's study showed that the percentage of summerwood generally appeared to influence specific gravity more than growth rate. The study further showed that site, crown class and geographic location appeared to have little direct effect on specific gravity, aside from their obvious effect on growth rates.

The cooperative Crown-Zellerbach —United States Plywood automatic plywood panel patching project was described by William R. Works, Crown - Zellerbach Corp., San Francisco, Calif. Cost figures introduced by Works showed present costs not economically favorable over conventional patching methods.

Works predicted that with further development of the process and increasing use of lower quality veneers requiring more patching the process would become economically feasible.

A phenolic putty is applied through an elementary rotor pump and scraped with an oscillating scraper.

James L. Payne, Salem, Ore., architect, told the group that wood was the most copied of finishing materials. He outlined several points on why the present-day architect chooses wood in his specifications:

- Easy availability — liaison with local mills for right material
- Availability of qualified craftsmen
- Readily fabricated in the field with simple tools
- Extremely versatile both for construction and finishing
- Lends itself to expandable type of construction
- Overall beauty of finished product
- Lends itself to simple honest design
- Ages gracefully

Payne called for more research in fire resistance of wood and fire resistant paints. He feels more figures are desirable on resistance to weather, abrasion and tensile strength.

The speaker stressed the necessities of a stepped-up advertising program in the industry to impress the virtues of wood on the architect, builder and ultimate general consumer.

A total of 100 wood product researchers from industry, public agencies and chemical firms participated in the annual meeting. Walter F. McCulloch, dean of forestry at Oregon State College outlined a humorous history of West Coast logging at the annual banquet during which the new officers were announced, including: John Syme, Oregon Lumber Co., Dee, Ore., chairman; Phillip Northcott, Forest Products Laboratories of Canada, Vancouver, B. C., vice-chairman; William R. Frances, Simpson Logging Co., Shelton, Wash., secretary, Edward H. Clark, Pacific Northwest Forest and Range Experiment Station, Portland, Ore., treasurer; Trustees: William West, Oregon State College forestry school and A. L. Mottet, International Paper Company, Longview, Wash.

●

Sweden Sets Records In Wallboard Products

Sweden's wallboard industry set a new high in output and deliveries of woodboard in 1957 with a total production of 508,000 tons, up 13% from 1956.

Hardboard production totaled 430,000 tons, insulating board 78,000 tons.

The 13% increase generally reflects an increased demand in European countries.

BOARD FACTS

SHIPMENTS of insulation board during 1957 totaled 1,667,061,400 sq. ft., on ½" basis, below the 1,863,167,300 sq. ft. of 1956. Figures do not include acoustical tiles and packaging material producers not represented by the Insulation Board Institute. Total 1958 production is expected to be up appreciably.

New Abitibi Power & Paper Co., Alpena, Mich., plant is producing; Southern Pine Lumber Co., Diboll, Tex., plant to start this year. Bestwell Certain-teed Sales Corp., to distribute Southern Pine board, are new members of IBI according to manager Charles M. Gray.

New Insulation Board Plant in England

• J. R. Gordon & Co., Ltd., has started production at a new insulation board mill at Queensferry, England. The plant has a capacity of 100,000 spare feet of ½-inch insulation board annually which is a quarter of the total U. K. present production of this product. Cost of the plant was $1.5 million.

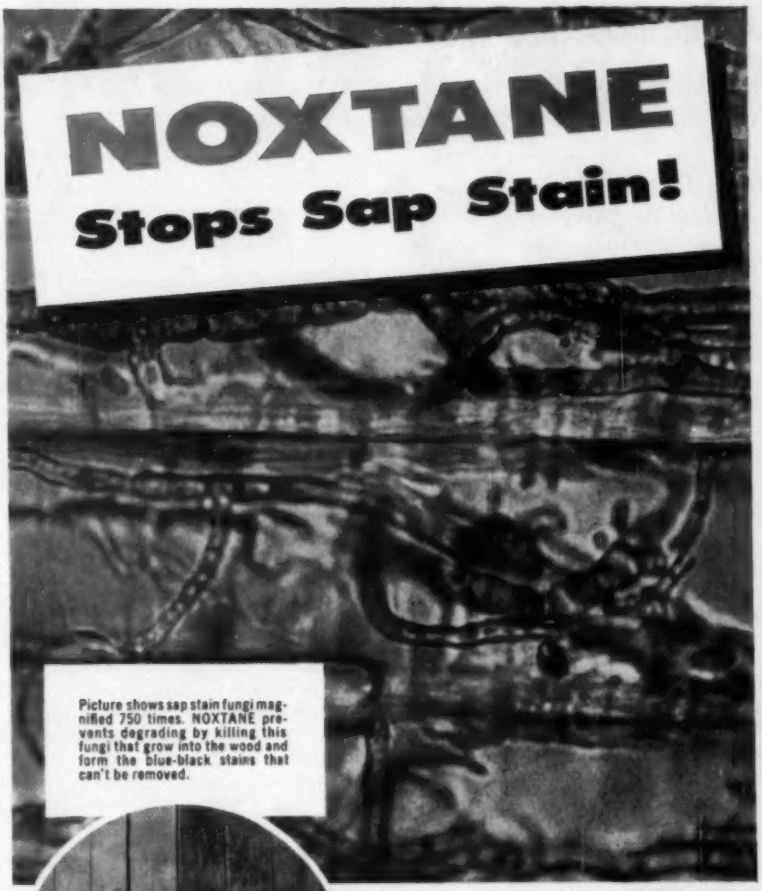
German equipment was installed in the plant following studies of various systems in plants on the Continent.

Presealing of Panels Opens New Markets

New markets loom for the manufacturer of hardboard and particle board who will pre-seal his output. This is the belief of National Lead Co. which points out that hardboard faces, to be properly prepared for painting, should be sealed and also all minute open areas filled.

A problem in sealing hardboard is that it is desirable also to retain as much of the original characteristic of the board as possible. A current practice is to add a slight amount of color so that it can be readily determined that the board has been sealed and to distinguish it from regular or tempered board.

R. A. McNiven, industrial coating division, National Lead, says tests with Dutch Boy Surfa Seal show it possible to reduce the number of paint coats from three to one. Such treatment also has tended to harden the surface of the board, make it more machinable.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Chemicals are Vital to Better Board Products

Manufacturers made important strides in 1957 to assist producers of board products

Free Formaldehyde Release Studied by Monsanto

Resin technology in the particle board field was advanced a step in the past year with development by Monsanto Chemical Co. of a test method to determine the amount of free formaldehyde release from particle board. Although this test is somewhat complex and costly to make, it, nevertheless, opened the door to a quantitative approach in developing a new urea formaldehyde resin with a substantially lowered rate of free formaldehyde evolution. This test method is available to the industry.

Also in the past year the Seattle and St. Louis Research laboratories began a cooperative effort in the field of preservative additives for particle board. This effort brings together the resin binder technology of the Monsanto Research Group in Seattle with the large research facilities of Monsanto St. Louis laboratories which specialize in the field of pentachlorophenol and its derivatives. This long range program involves particle board process modifications, laboratory evaluation techniques, and the use of test plots in Florida and Hawaii.

In the last year a great deal of effort has been spent in the tailoring of established resin binders to fit the needs of individual plants, but simultaneously research was continued toward finding a major "break-through" in resin technology.

Being very aware of the promising future of the board industry, Monsanto increased their research in the board field in 1957 and have increased it again for 1958, and have every confidence that 1958 and 1959 will see large strides in binder technology and board property improvements.

Research Provides Stronger, More Attractive Boards

During the past year, most research effort in the composition board field has been directed toward refinement of specific properties which will increase product versatility, and marketability; also, constant effort has been made to enhance the economical advantages of board production by improving processing, according to American-Marietta Co., Adhesive, Resin & Chemical Division.

Hardboard has been given additional versatility by improved strength properties, and appearance. Perhaps the most important progress is the development of materials which improve surface hardness and surface properties, in general, of both hardboard and particle board. These improvements facilitate painting and other finishing methods.

Hardboard binders have been developed which have improved operating properties such as drainage and foaming on wet process, and distribution on dry process.

In the particle board field, modified resins have improved mechanical properties such as strength, internal bond, edge and face screw holding.

Constant effort is being made to develop resins to meet the requirements of particle board as new uses are found in various construction fields. To aid product salability, uses of resin binders are made as economical as possible by improved formulations and equipment — an objective which is supported by constant evaluation and growing understanding of end use.

Increased emphasis is being placed on customer technical service. Close cooperation with the board mills in fulfilling requests for technical aid in production problems has contributed greatly to understanding of mutual objectives. In this way, basic research programs conducted by the resin manufacturer can be directed to the best advantage of the entire industry, including the ultimate customer.

New Resins Emerge As Result of Testing

Within Reichhold Chemicals, Inc., research groups are maintained at two locations to develop and apply "Foramines" and "Forasites." At Charlotte, N.C., the research group works very closely with the Southern flake and particle board manufacturers. At Seattle, Wash., the fields of dry, semi-dry and wet process hardboard manufacture are investigated in addition to the broad field of particle boards. Recent developments by RCI in the "Foramine" line include resins which minimize the release of formaldehyde during board manufacture and resins which provide exceptional strength properties at reduced curing cycles. In the "Forasite" line recent developments include resins which reduce foaming in wet process hardboard manufacture and a resin for dry process hardboard manufacture which provides greatly increased internal bond strength.

To provide the optimum resin for a customer, RCI tailors it to the customer's particular operation. RCI maintains at Charlotte and Seattle laboratory board manufacturing equipment which can be assembled and operated to duplicate as nearly as possible the manufacturing process under study. Complete board testing facilities are also available at both locations.

Along with the development of "Foramine" and "Forasite" resins RCI also provides to board manufacturers custom slide rules which simplify the calculation of board M.O.R. and specific gravity and resin dilution. Complex slide rules showing the full line operation of a hardboard plant have been designed and supplied for use with "Foramine" and "Forasite" resins.

Borden Helps Industry With Lab Studies

Close technical service assistant to the growing board field was one of Borden Co.'s major highlights during the past year, according to the technical department. This service was offered from three laboratoreis, located at Bainbridge, N.Y.; Faetteville, N.C., and Seattle, Wash. The Bainbridge and Seattle facilities recently added new board departments.

Borden studies have been directed toward the technique of resin application specifically to determine efficiency of adding resin of various solids, through differing rates of application, to various moisture content material mechanically blended in various ways, and wax treatment at various stages in relation to resin. Rate of heat transfer studies have been conducted on boards made using various particle geometry.

Studies have been conducted for determining how to increase internal bond strength of flake board, influence of fines, temperature of flakes, glue coverage and penetration. Studies of testing methods have been made. Exploratory work has been conducted on more durable resins.

Borden has developed three resins for particle boards. They are the Casco resin WW-17, used with or without a catalyst; Casco resin CR-5H, used with MO-602 (modifier to lower cost and inhibit formaldehyde fumes) and special low-cost chemicals for catalysts; and Casco resin CR-5H used with special low-cost chemicals for catalysts. The first two named are used in the multi-platen process; the latter is used in the extrusion process.

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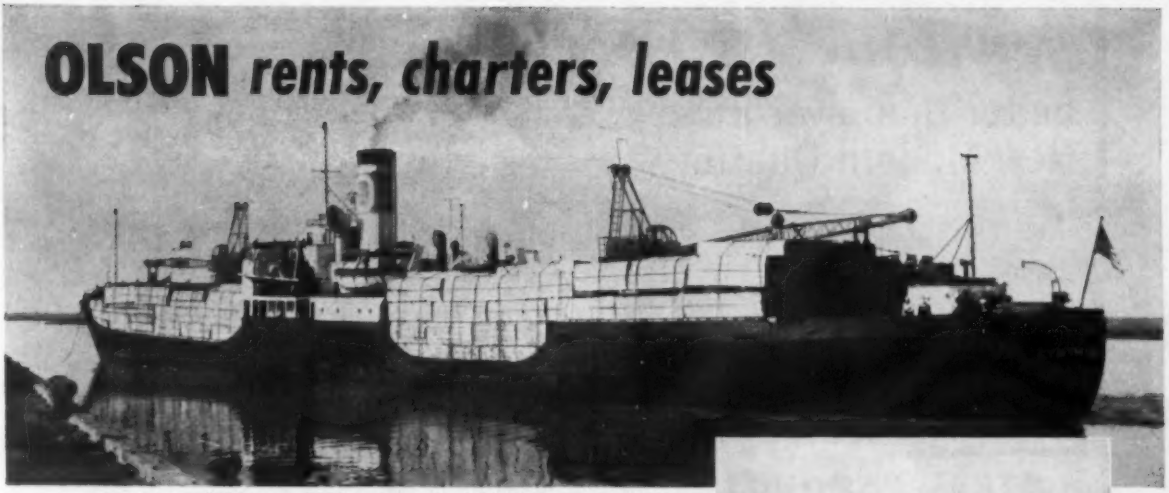

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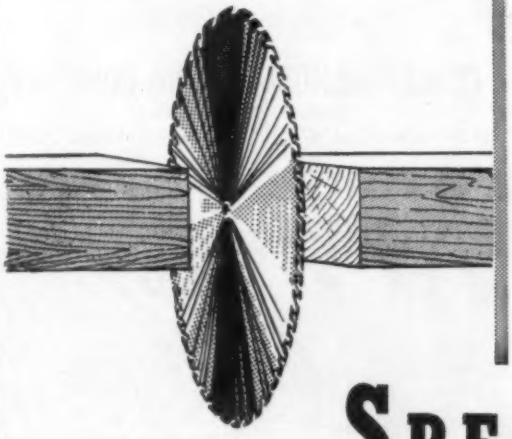

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The SCR-625 is a portable instrument which may be used in the field to give an audible indication of buried metal in logs, underground, or in water. It may also be connected permanently with suitable automatic control devices for stopping machinery should imbedded metal in logs be encountered.

Detector is shipped in handy portable carrying case with instructions and ready to operate except for batteries. Ship. wt. 55 lbs. Our recent Government surplus purchase allows the present low price of $79.50 ea. Batteries, per set—$6.27. Special price to quantity users or dealers upon request.

We maintain service and parts of the SCR-625. Parts price list on request.

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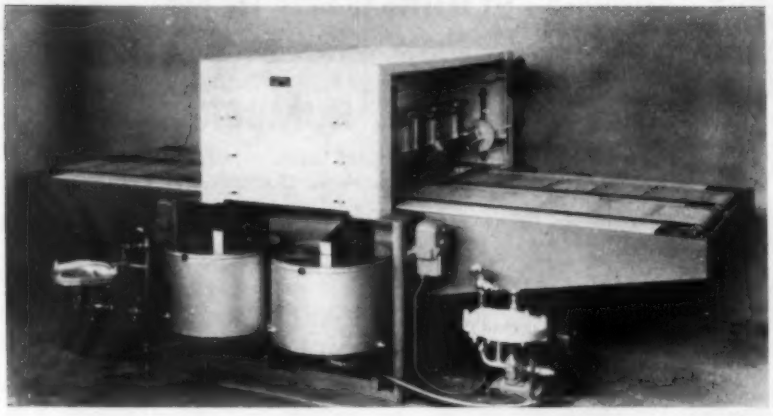
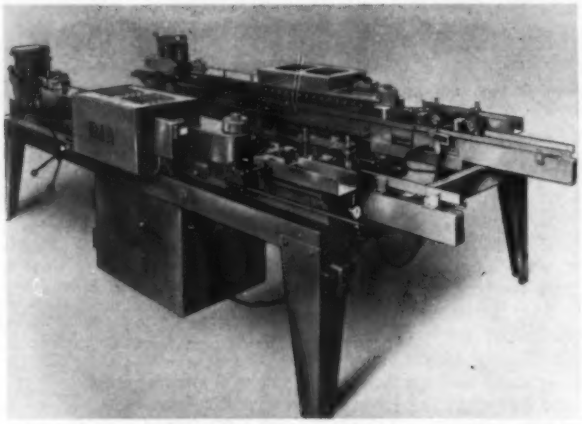
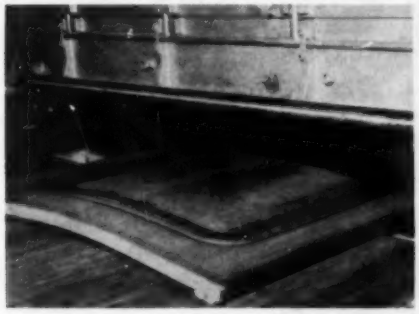
BOARD EQUIPMENT



FAST FINISHING of panel products is possible with the Steinemann Coater at left. Up to 400 feet per minute is possible. Coatings are applied by conveyor-feed stock under a cast aluminum pressure head with adjustable orifice. Finish under positive pressure flows through the slot forming a thin veil or curtain. Thickness of coating can be controlled by varying feeding speed and height of head. Feeding belts are wrapped under the collector trough just below the head to keep them from being contaminated by finishing material and to provide an absolutely even belt feed on both sides of the head. Machines with two heads are provided for quick changes of finishing material. A wide variety of machines is available, variables being head width and infeed and outfeed coveyor lengths. Curved pieces can also be handled as show in the picture of the outfeed below. The equipment is offered for the distributor Wilco Machine Works, Inc., Memphis, Tenn., by Tyee Machinery Co., Seattle, Wash., and Portland, Ore.; Cecil A. Carriere, San Francisco, Calif., and Wagner Machinery Co., Los Angeles, Calif.





EDGE BANDED PARTICLE BOARD is accomplished automatically with the IMA Continuous Feed Veneer Edge Bander, distributed in North America by Wilco Machine Works, Inc., Memphis, Tenn. Installed behind sizing saws or sanders, it will band with veneer strios from 1/42 to ⅛-inch thick. Glue is applied by rubber rollers; feeding and glue curing by pressure and heat are accomplished by low frequency induction heating of continuous steel tapes up to 550 degrees.

PACKAGING HARDBOARD is simplified with the Stanley Steel Strapping Co. Electric Skid Magazine tool which can be easily moved to fit in with plant production flow pattern. At left, 4x4-foot panels are strapped for shipment, will be moved by lift truck to the boxcar siding. Spilled loads are avoided with strapping. At right, 12-foot bundles of hardboard are strapped with ⅜x.015 strapping. These applications are at the Ukiah, Calif., plant of Masonite.

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NEW RESEARCH CENTER of American-Marietta, now under construction, will use various engineered forest products, many in combination with other materials, in construction.

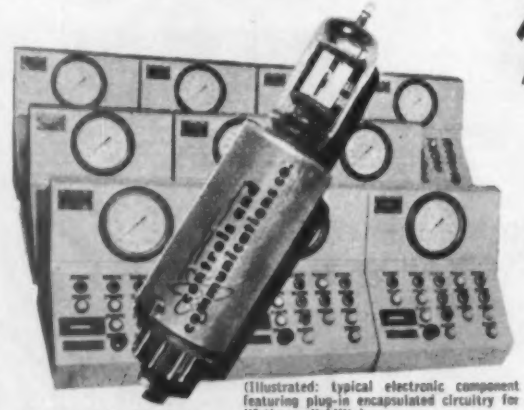
AMERICAN-MARIETTA ADDING RESEARCH CENTER

American-Marietta Co. is establishing a $1 million synthetic resin research center on Harbor Island, Wash., at which it will conduct research for its entire adhesive, resin and chemical division with plants at Seattle, Portland, Ore., New Westminster, B.C., and Edmonton, Alberta, and the Booty Resineers division at Newark, Ohio.

The expansion, with its 30,000 square feet, will be an addition to the present research and administrative building which will be renovated.

The center will consist of 21 unit laboratories and six process development areas. Also included will be areas and equipment for evaluation and testing of wood products manufactured throughout the northwest. As designed and equipped, the laboratories will provide complete facilities for research, engineering and technical services.

ORIENTED FLAKEBOARD is displayed by George C. Marva, Washington State College. Flakes are oriented for strength to build engineered board for load bearing, stressed skin, sheathing, subflooring to span joists and beams. In production, baffles in felter orient flakes in generally same direction. High strength board on left has a density of .60, modular of rupture of 11,500 lbs. psi longitudinal, and 3600 lbs. psi transverse. Board on right, smaller flakes, has density of .85, modular of rupture of 17,500 lbs. psi longitudinal and 5560 lbs. psi transverse. Four percent phenolic resin content used.



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State of the Board Industry

(Continued from page 37)

and that in the future new uses for improved products will mean an industry many times as large as we now have.

Certain things are evident in the development of the industry to date. Among them are the following:

▸ There is a real need for standards. Acceptance and extension of use will be greatly increased once standard types have been established and correlated with specific use requirements.

▸ The production potential of the particle board industry now exceeds that which can be used as core material. Greater amounts of particle board will have to be used as panel material, without added faces, if the industry is to continue to grow.

▸ Originally all particle board plants, used as raw material, residues from other prime forest products manufacture. The increasing amount of board manufactured from flakes or other cut particles—most of the new plants use that type—suggests that higher quality raw materials will be used in increasing amounts.

▸ Housing with its large potential volume is an important future market. Presently particle board is accepted as underlayment, interior paneling, and core for counter tops, cabinet doors, and millwork. More durable or better resin adhesives are needed to broaden the acceptance to such items in the house as nailable roof and wall sheathing, subflooring, finish flooring, siding, and other uses where it could compete favorably with lumber and plywood.

▸ It has been demonstrated in laboratory research that particle boards with strength and physical properties, approaching those of plywood, can be made from high-quality flakes and proper amounts of binder. Since manufacturing is likely to approach the results of the laboratory, it is reasonable to expect future particle boards to take a share of many uses where plywood is a preferred material today.

▸ New, more economical, and better adhesives are likely to be developed through the efforts of the resin companies. It has been estimated that present particle board resin requirements approach 20,000 tons of urea and phenol resin solids. Competition for these markets means that the resin companies will devote both time and money towards improvement of products going into that market, and they are doing it now.

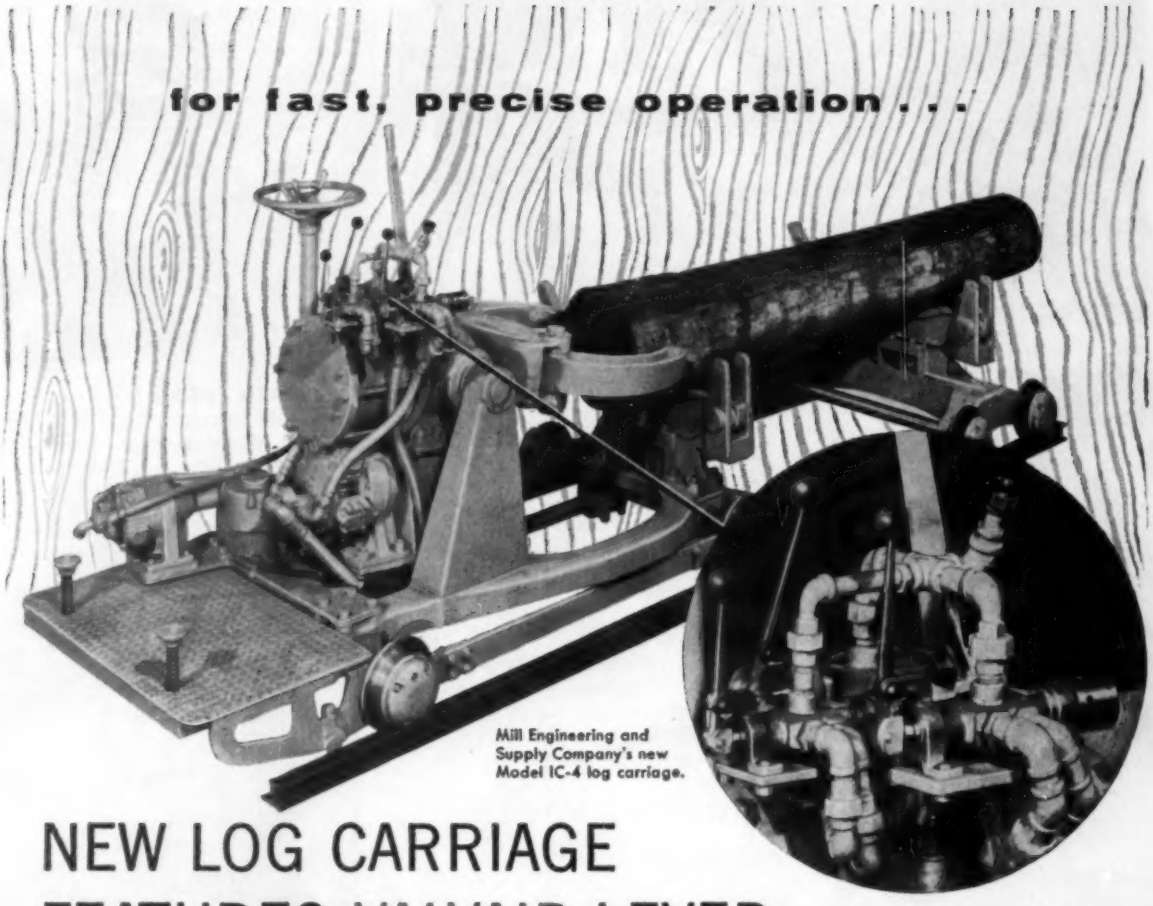
▸ Some present particle board plants are having difficulty in moving their production. In general, this seems to be more prevalent in the smaller plants without well-established sales organizations. It emphasizes the importance of properly organized sales efforts usually integrated with other forest products and also indicates that smaller plants—other than those with a captive market—may be in a difficult competitive situation because of the costs of marketing their production.

●

Particle Board Floor Tile

The possibility of producing floor tiles from wood and cork is being studied at the Oregon Forest Products Research Center in Corvallis, Ore. Investigations are being conducted with ponderosa pine hammer-milled planer shavings and with Douglas fir bark cork.

for fast, precise operation . . .



Mill Engineering and Supply Company's new Model IC-4 log carriage.

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Power Transmission Products Co.
1107 N. W. 14th Avenue
Portland 9, Oregon

LAMINATING PRESS of Black Brothers above handles extra thick panels. It works with Black glue spreader equipped with an automatic top-roll positioning device. The positioning device consists of a pneumatic cylinder, actuated by fingers that contact the stock when material is of sufficient height to require lifting the upper roll. The device is necessary because when bonding three or more sheets on a double coating machine, it is desirable to have a double glue line between layers.

FLAKEBOARD FINISH that will accent the flake surface and dimensional appearance of the board is available from Desmond Bros. A typical application is a light sanding, two coats of Desmond's Deft Wood with each coat lightly sanded. Self-leveling of the finish makes it particularly adaptable to the many-grained flakeboard.

GLUE MIXER by Black Brothers has large, 400-gallon capacity. It delivers its load into the 600-gallon adhesive storage tank in the left foreground. The units have water-jacketed side and bottoms capable of withstanding 150 spi steam pressure.

HORIZONTAL FEED CHIPPERS available from Sumner Iron Works, Everett, Wash., include two 53-inch units, one of which is pictured at right. One is a 4-knife economy unit with 15,000 to 30,000 daily production, the other a 10-knife unit for higher capacity.

D-42 DEFIBRATORS developed by American Defibrator, Inc., New York City, have one rotary and one stationary grinding disc, each 42 inches in diameter and mounted in the swing bolt housing. The rotary disc is attached to the main shaft supported by heavy duty combination thrust and journal bearings. Grinding pressure is hydraulically controlled by an oil pressure system. Variations in the feeding rate of wood chips are automatically balanced by the hydraulic system to maintain constant grinding pressure.

VIBRATING SCREEN SEPARATORS 30 inches in diameter in 1, 2 and 3-deck models are available from Southwestern Engineering Co., Los Angeles, Calif. The 30-inch models operate on the same 3-dimensional gyratory principle as other SWECO separators. Construction is carbon steel or type 316 stainless steel. Motor is 60-cycle, 3-phase, 1200-rpm, ½-hp, 220/440 volt. The units will screen wet or dry, coarse or fine, hot or cold material. Two to four fractions can be secured by a 1, 2 or 3-deck unit. The new size broadens the firm's line to 18, 30 and 48 inches.

Japan Hardboard Plant Nears Production

A smooth two sides hardboard as well as insulation board will be produced at the new hardboard plant now being readied for production by Daiken Trade & Industry Co., Ltd., in Japan. When in production in mid-1958, the plant will not only produce hardwood and insulation board but will further process insulation board for acoustic tile, coated board and tile and plank.

A specially designed Washington Iron Works 12-open hot press eliminates caul plates in the press. Specially designed arms incorporated in the Washington press design kick the cured board from between the platens upon completion of the curing cycle.

WASHINGTON IRON WORKS press in new Japanese plant does not use caul plates.

The press is engineered to cure boards in several different panel sizes. It will be capable of processing boards in panels 4x9, 4x8 and 3x6 feet in thicknesses from ⅛ to ¼ inch.

To produce pressures up to 1500 psi necessary for the process, design of the press allows for two large upward-acting hydraulic cylinders. The platen area is 54x116 inches with 3½ inches daylight between each of the 13 steam-heated platens.

●

Insulation Board Output Down in U. S. in 1957

United States insulating board production was down somewhat in 1957, according to the Department of Commerce preliminary annual report. Production for the year was listed at 974,935 short tons as compared to 1,102,012 short tons for 1956 and 1,092,890 short tons for 1955.

Hardboard continued its gradual production rise with a 1957 production of 608,992 short tons. 1956 production was 539,981 short tons, somewhat over the 529,558 short ton production of 1955.

Ledeen CYLINDERS operate bridging sections of lumber separator

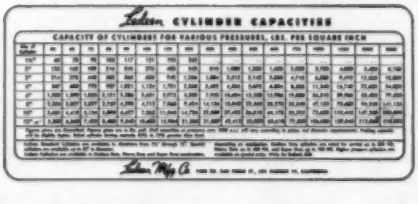
Illustration shows lumber separator and grading table in Oregon sawmill. Bridging sections on the separators are actuated by 4"Ledeen Air-Operated Heavy Duty Cylinders, shown suspended from cross beam at far end of separator.

Ledeen Cylinders give long, dependable and low maintenance service. That's why they are being specified more and more for many applications in the timber industry.

Standard cylinders available from stock in 1½" through 12" bores. Special cylinders up to 20". These cylinders offer a wide range of capacities to meet *your* power requirements.

HOW MUCH CYLINDER POWER DO YOU NEED?

Send for this cylinder capacity chart. It will help you determine the size Ledeen Cylinder you need to meet *your* power requirements.

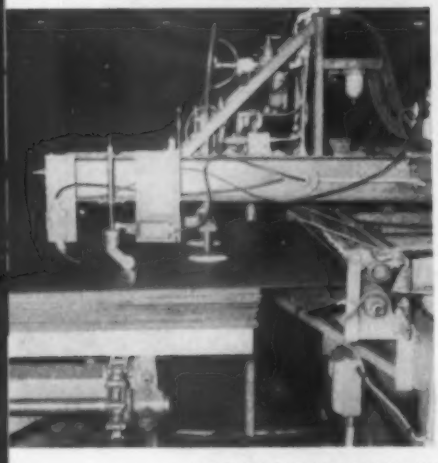


Ledeen Mfg. Co.
1604 San Pedro St.
Los Angeles 15, Cal.

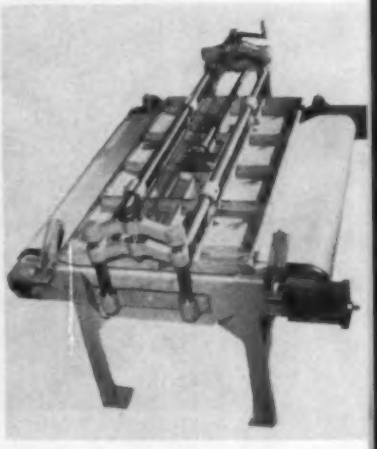
Write for Bulletin 500

VALVES • CYLINDERS
VALVE ACTUATORS
AIR-HYDRAULIC PUMPS AND BOOSTERS

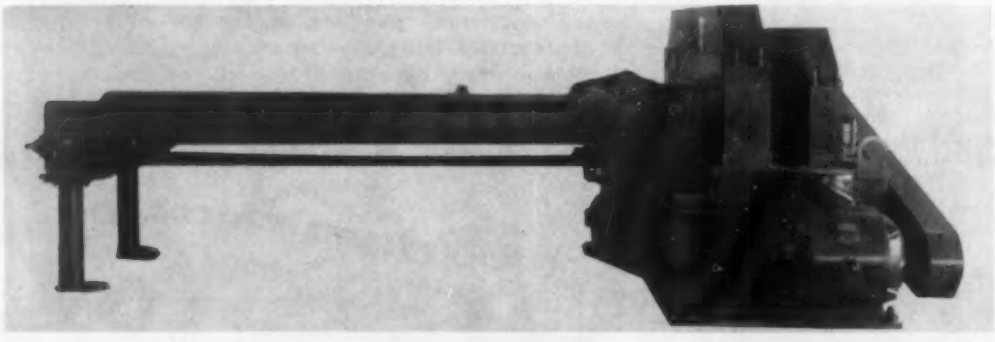
WET AND DRY BUFFING of hardboard and particle board is possible with machines pictured at left and below. They are a development of Grenco, Inc., Portland, Ore. In wet buffing, wet sealer is mechanically rubbed into the surface to seal the board. After wet buffing, panels go through a fused quartz, long wave length, infra-red drying tunnel which in 30 to 60 seconds prepares the surface for the final dry buff. The second buffer removes the film haze from the board and gives it the burnished or glazed surface. The tunnel can be provided with chain conveyor, powered roller conveyor or powered slat conveyor. The unit is available with variable speed drive and is shipped assembled, factory-wired and shop tested. The wet buffer and dry buffer are driven from the tunnel drive to complete a packaged unit. Presealed hardboard panels may be subsequently tempered.



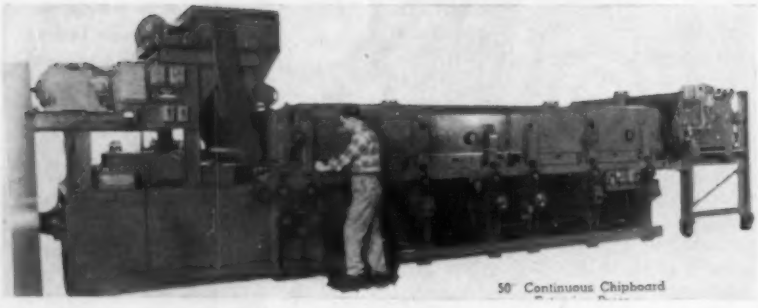
VACUUM PICK AND FEEDER manufactured by Tidland Machine Co., Camas, Wash., for installation at Oregon Lumber Co., Dee, Ore., is fully automatic, feeds a board to the trimmer every nine seconds. Rate of feed is controlled by an automatic micro precision limit switch. As each board is fed to the trimmer, a trigger slips over the end of the passing board activating the mechanism that automatically raises the storage rack the proper height for the pick to take off a single panel on each new pass. As the release trigger permits the passing of the board to the trimmer, a blast of air is forced through the vacuum system to blow all lint out of the lines. There is also an air cleaner on the line.

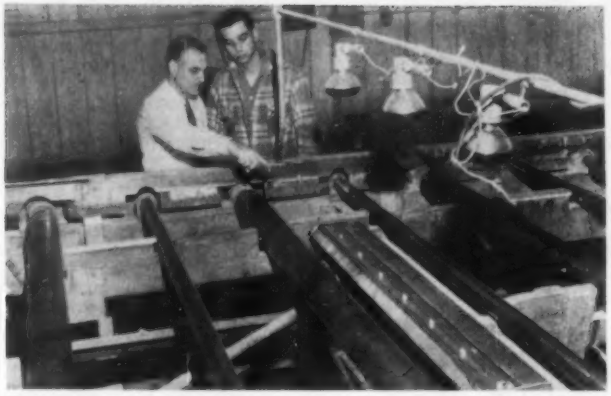


HORIZONTAL FEED CHIPPER (below) by Jackson Industries, Inc., is available in 3- and 6-knife models with top or bottom discharge. The unit has a 16-inch wide throat opening.

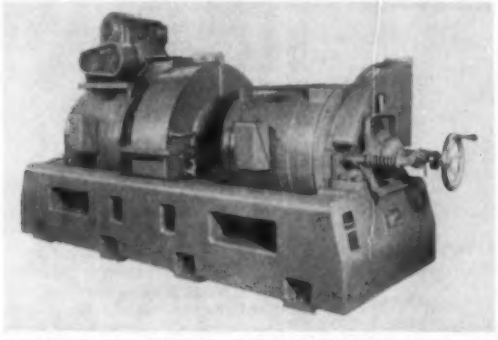


LANEWOOD EXTRUSION PRESS, produced by Adamson United Co., consists of a reciprocating ram which drives the chip-resin mixture through a flat passage between steam-heated plates under pressure where they are cured and compressed. The board can be four feet wide, 1½ inches thick and any length. The panel emerges in a continuous strip which is cut to the desired length by a cutoff saw.



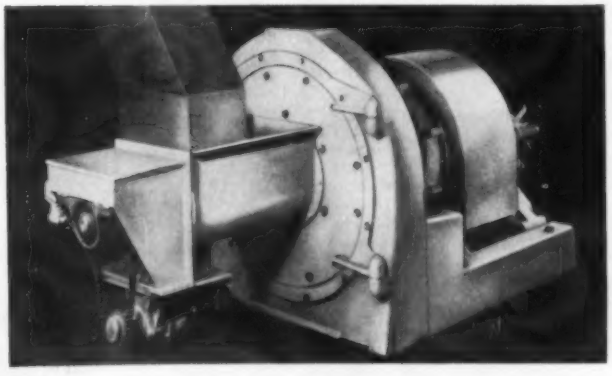


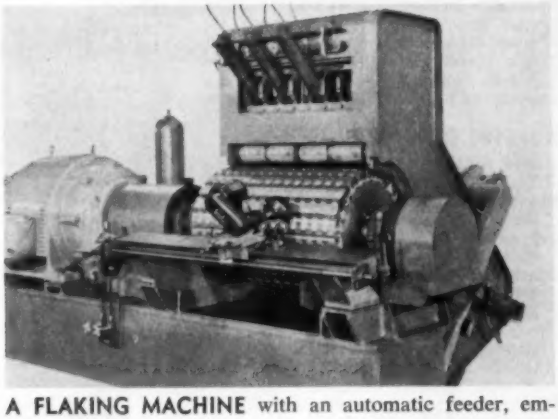
ELECTRONIC CONTINUOUS MOISTURE DETECTOR by Laucks Sentry at Simpson Logging Co. insulation board plant in Shelton, Wash., provides continuous inspection. The moisture sensing element may be anywhere along the drying line; at Simpson it precedes trim saws, shown above. Since the board edges are appreciably lower in moisture content than other parts of the board following drying, the sensing elements are positioned so that they contact the inner two-thirds of the board width. The chart record, at right, has a large, highly legible 12-inch scale for easy interpretation. Since the signal on the recorder is a moisture proportional signal, the pen excursions for a given sample must be calibrated for the nominal thickness of the sample. This calibration is correlated with oven-drying samples and a system is set for all subsequent production of the same given dimension. The Sentry continuous system affords a permanent record.



DOUBLE REMOVING DISC REFINER, above, by Bauer Bros. Co. is engineered for fiber and particle production, has high speed motors and a variety of plate designs to produce fiber and particles from material previously unused.

SINGLE DISC MILL, below, by Bauer Bros. is a high speed unit for intensive mixing of resins and other additives to fiber or particles.





A FLAKING MACHINE with an automatic feeder, employing cylinder mounted knives, has been produced by Industrial Development Co., Inc., Tacoma, Wash. The flaker accommodates slabs or roundwood up to 14″ in dia. and 2′ long. Logs of 12″ dia. and 24″ long are reduced to 0.015-inch flakes at the rate of one every 5 seconds. Raw material is placed in a bin with a trap door, automatically operated by the flaker, dropping pieces into the flaker as required. An hydraulic feeder moves forward at the rate of speed required to produce the desired flake thickness. When feeder comes within ½-inch of head, it reverses rapidly to a wide-open position, introducing another piece. At full reverse stroke, feeder automatically starts forward to push new charge toward flaker head. The hydraulic cylinder controlling the feeder can vary the feed rate by setting a flow control valve. Hold-down fingers are incorporated to keep blocks from rotating or chattering. Fingers also hold small remaining piece from turning. Cylindrical cutter head used has 24 knives mounted on periphery. Knife design was collaboration with Jones & Orth, Cutter Head division, R. Hoe & Co., Inc. The flaker is now being manufactured by Newman Machine Co., Greensboro, N. C.

THE LUMBERMAN'S 1958 DIRECTORY OF

Board Producers

- Hardboard
- Flakeboard
- Particle Board
- Insulating Board

HARDBOARD

ABITIBI CORP.

Home Address: Penobscot Building, Detroit, Mich.
Plant Address: Alpena, Mich.
Personnel: D. W. Ambridge, Pres.; P. E. Roberts, Exec. Vice-Pres.; O. B. Eustis, Mill Mgr.; R. M. Graum, Plant Supt.; E. J. Schultz, Gen. Sls. Mgr.; P. A. Livingston, plant Engr.
Production: (Rated Annual Capacity) 200,000,000 sq. ft. ⅛ inch basis.
Date of Plant Startup: Dec. 1957.
Process: Abitibi process—all 3 types of board.
Panel Sizes: All standard sizes.
Percent into cut-up sizes: Variable.
Raw Material Used: Pulpwood.
Volume (from mill residues) 75,000 to 80,000 tons annually.
Specialty Items: Overlayment, tongue and groove, tempering, prefinish, special finishes.
Trade Name: Plateboard—hardboard S-1-S, S-2-S.
Percent of product for own use: None.

ABITIBI CORP.

Home Address: 408 University Ave., Toronto, Ontario.
Plant Address: Sturgeon Falls, Ontario.
Personnel: D. W. Ambridge, Pres.; P. E. Roberts, Exec. Vice-Pres.; A. L. Farnsworth, Mgr.; W. T. Gauthier, Mill Supt.; E. J. Schultz, Gen. Sls. Mgr.; P. M. Rebin, Resident Engr.
Production: (Rated Annual Capacity) 63,140,000 sq. ft. Hardboard ⅛-inch basis; 14,748,000 sq. ft. Platewood ⅝-inch basis.
Rated Capacity: 240 cords daily.
Process: Woodpulp Mill.

ANACORTES VENEER, INC.

Home Address: 35th and V Avenue, Anacortes, Wash.
Personnel: Thomas L. Bentley, Gen. & Sls. Mgr.

CANADIAN FOREST PRODUCTS LTD.

Home Address: Pacific Veneer & Plywood Div., Box 1040, Foot of Braid St., New Westminster, B. C.
Personnel: J. G. Prentice, Pres. & Gen. Mgr.; G. L. Burgon, Hdbd. Supt.; D. M. Zilm, Gen. Supt.; W. E. Burns, Gen. Sls. Mgr.; T. Roubicek, Tech. Dir.; N. Springate, Plant Engr.
Production: (Rated Annual Capacity) 80,000,000 sq. ft. ⅛-inch equiv. basis.
1957 Production: 62,214,000 (⅛-inch equiv.) sq. ft.
Rated Capacity: 120 tons daily.
Date of Plant Startup: Fall 1948.
Process: Asplund, Chapman Batch, Forming.
Panel Sizes: 4x8 feet.
Thicknesses: ⅛, $\frac{5}{32}$, ¼, $\frac{5}{16}$ inches.
Spec. Gravity: .90 to .96.
Colors: light brown.
Raw Material Used: Fir veneer chips.
Uses: Construction and Industrial.
Specialty Items: Tempering, prefinish, grooving, perforating.
Trade Names: P. V. Brand, Square-Tex, Plank Board, Utility Board, Colonial Board, Aero Board and standard grades.

EVANS PRODUCTS CO.

Home Address, Plymouth, Mich.
Plant Address: P. O. Box 651, Corvallis, Ore.
Personnel: R. B. Evans, Pres.; Arthur VanderSys, Mgr. & Sls. Mgr.; K. G. Borchgrevinis, Supt.
Production: (Rated Annual Capacity) 25,000,000 sq. ft. ⅛-inch basis.
1957 Production: 22,525,000 sq. ft.
Rated Capacity: 40 tons daily.
Date of Plant Startup: 1946.
Process: Chapman, Wet-type.
Panel Sizes: 4x8, 4x4 feet.
Thicknesses: 1/10, ⅛, $\frac{5}{32}$, ¼ inches.
Spec. Gravity: 0.85 to 1.05.
Colors: Natural Douglas Fir.
Characteristics: Color, workability, smooth surface, puncture resistant.
Raw Material Used: Douglas fir, sawmill residues.
Volume (from mill residues): 7,000 to 8,000 tons.
Specialty Items: Striating, tempering, corrugating, perforated and planked, rippled.
Trade Names: Evanite Hardboard, Deca-Bord, Driftwood, Rib-bord.

FOREST FIBER PRODUCTS CO.

Home Address: P. O. Box 68, Forest Grove, Ore.
Personnel: Harold Miller, Pres.; F. M. Hughes, Mgr.; Gene Tower, Supt.; Henry Jacobsen, Sls. Mgr.; Keith Kruse, Tech. Dir.; Clyde Mason, Plant Engr.
Production: (Rated Annual Capacity) 60,000,000 sq. ft. ⅛ inch basis.
Process: Wet.
Panel Sizes: 4x16 feet.
Thicknesses: ⅛ to ⅜ inches.
Colors: Autumn tan; chestnut brown; sandalwood.
Raw Material Used: Long fiber Douglas fir chips.
Uses: Interior and exterior.
Specialty Items: Striating; tongue and groove; tempering; prefinish.
Trade Names: Sandalwood, Forestex, Forall, Punched Board, Forest ⅜" Tee-N-Gee.

GEORGIA-PACIFIC CORP.

Home Address: Equitable Building, Portland, Ore.
Plant Address: Coos Bay, Ore.
Personnel: Robert B. Pamplin, Pres.; Joseph Stronko, Mgr.; Armin A. Wehrle, Supt.; Walter C. Walling, Sls. Mgr.
Production: (Rated Annual Capacity) 80,000,000 sq. ft. ⅛ inch basis.
1957 Production: 66,800,000 sq. ft.
Rated Capacity: 100 tons Daily.
Date of Plant Startup: 1953.
Process: Dry.
Panel Sizes: 4x16 feet.
Thicknesses: $\frac{3}{32}$, ⅛, $\frac{5}{32}$, ¼, ⅜ inches.
Spec. Gravity: 0.93 to 1.08.
Colors: light, natural fir.
Characteristics: Smooth, both sides, machinability, high internal bond, screw holding strength, damage-resistant edges.
Percent into cut-up sizes: 10%.
Raw Material Used: Douglas fir.
Volume (from mill residues): 30,000 tons.
Uses: Veneer core, high pressure plastic laminate core, garage door panels, furniture and cabinet panels, underlayment, perforated hardboard, plyron faces, wall panels.
Specialty Items: striating, prefinish sanding, perforating.
Trade Names: Georgia-Pacific Hardboard, Georgia-Pacific Perforated Hardboard.

KROEHLER MFG. CO.

Home Address: Naperville, Ill.
Plant Address: Meridian, Miss.
Personnel: D. L. Kroehler, Pres.; Kenneth Kroehler, Mgr.; Fred Myers, Wks. Mgr.; Torbin Yates, Tech Dir.; David Adams, Plant Engr.; Roger Sutton, Research.
Production: (Rated Annual Capacity) 12,000,000 sq. ft.
Rated Capacity: 80 tons Daily.
Date of Plant Startup: July 15, 1958.
Process: Emerite.
Panel Sizes: 5x10 feet.
Thicknesses: ⅛ to 1⅛ inches.
Characteristics: Fibre.
Percent into cut-up sizes: 100%.
Raw Material Used: Offal dimension mill.
Volume (from mill residues): 18,750 tons.
Uses: Core stock, moldings, hardboard case goods use.
Specialty Items: tempering.
Trade Name: Kultured Wood.
Percent of product for own use: 100%.

MASONITE CO. OF CANADA, LTD.

Home Address: Sun Life Building, Montreal, Quebec.
Plant Address: Gatineau, Hull Co., Quebec.
Personnel: R. M. Archer, Gen. Mgr.

MASONITE CORP.

Home Address: Chicago, Ill.
Plant Address: Laurel, Miss.
Personnel: John M. Coates, Pres.; William A. Cotton, Vice-Pres. in chg. of Mfg.; Paul B. Shoemaker, Vice-Pres. Sls.; F. O. Marion, Gen. Sls. Mgr.; Donald J. Gray, Vice-Pres., Gen. Mgr., Laurel; Orcutt W. Frost, Dir. of Research and Development; Frank Lesniak, Chief Engineer.
Production: (Rated Annual Capacity) 910,000,000 sq. ft. ⅛ inch basis.
Process: Exploded wood fiber process, wet and semi-dry type.
Panel Sizes: up to 4x16 inch.
Thicknesses: 1/10 to 2 inches.
Spec. Gravity: 0.9—1.4.
Colors: Brown.
Characteristics: Smooth, dense, wear-resistant surface.

Raw Material Used: Hardwood and softwood.
Uses: Many in building and industry; walls, ceilings, cabinets, underlayment, siding, decorative specialties, bathroom and kitchen "tiles," concrete forms, etc.
Specialty Items: Striating, groove, tempering, embossed patterns, grooving, priming, printing.
Trade Names: Masonite Presdwood, Tempered Presdwood, Panelwood, Underlayment, Tempered Duolux, Dorlux, Tempertile, Leatherwood, Ridgeline, Peg-Board, Shadowvent Siding, Panelgroove, Ridgegroove, Concrete Form Presdwood, Benelex, Primecote products, Seadrift, Misty Walnut.

MASONITE CORP.

Home Address: Chicago, Ill.
Plant Address: Ukiah, Calif.
Personnel: John M. Coates, Pres.; William A. Cotton, Vice-Pres. in chg. of Mfg.; Paul B. Shoemaker, Vice-Pres. Sls.; F. O. Marion, Gen. Sls. Mgr.; Donald J. Gray, Vice-Pres.; Dean Thatcher, Gen. Mgr., Ukiah; Orcutt W. Frost, Dir. of Research & Development; Frank Lesniak, Chief Eng.
Production: (Rated Annual Capacity) 200,000,000 sq. ft. ⅛ inch basis.
Process: Exploded wood fiber process, wet and semi-dry type.
Panel Sizes: Up to 5x16 feet.
Thicknesses: 1/10 to 2 inches.
Spec. Gravity: 0.9—1.4.
Colors: Brown.
Characteristics: Smooth, dense, wear-resistant surface.
Raw Material Used: Hardwood and softwood.
Uses: Many in building and industry; walls, ceilings, cabinets, underlayment, siding, decorative specialties, bathroom and kitchen "tiles," concrete forms, etc.
Specialty Items: Striating, groove, tempering, embossed patterns, grooving, priming, printing.
Trade Names: Masonite Presdwood, Tempered Presdwood, Panelwood, Underlayment, Tempered Duolux, Dorlux, Tempertile, Leatherwood, Ridgeline, Peg-Board, Shadowvent Siding, Panelgroove, Ridgegroove, Concrete Form Presdwood, Benelex, Primecote products, Seadrift, Misty Walnut.

NU PLY CORP.

Home Address: Bemidji, Minn.
Plant Address: Bemidji, Minn.
Personnel: A. C. Nasvik, Pres.; F. Russell Eggers, Mgr.; Archie Gulsvig, Supt.; Don Gould, Tech. Dir.; Don Hanson, Plant Mgr.
Production: (Rated Annual Capacity) 36,000,000 sq ft. ⅛ inch basis.
Rated Capacity: 50 tons Daily.
Date of Plant Startup: 3/1/56.
Process: Dry.
Panel Sizes: 48"x96".
Thicknesses: 1/10 to ⅜ inch.
Spec. Gravity: 1.0 to 1.12.
Colors: Light.
Raw Material Used: Aspen.
Volume (from logs): 27,000 tons.
Trade Names: Bemidji Bord, Nu Ply.
Percent of product for own use: None

OREGON LUMBER CO.

Home Address: Chicago, Ill.
Plant Address: Dee, Oregon.
Personnel: C. M. Hines, Pres.; W. J.

AMERICAN CASE HISTORY #12

American fabricated blower systems at Pope and Talbot Particle Board plant, Oakridge, Oregon.

flakes and shavings take to the air at P&T's new particle board plant

Six American Sheet Metal fabricated blower systems expedite movement of raw materials and waste at the new Pope and Talbot plant in Oakridge. The twin systems shown above, one for flakes and one for shavings, transport raw materials 600 feet from nearby planing mills to the processing machines. A third efficient American fabricated system blows dust and waste 640 feet to burner.

Pope and Talbot's new Particle Board plant is an outstanding, forward step in the Pacific Northwest's forest products industry. Choice of American Sheet Metal as fabricator of blower systems testifies to American's superiority in planning, building and installing all kinds of sheet metal jobs. For your next blower system, consult American.

OTHER HARDBOARD PLANT INSTALLATIONS BY AMERICAN SHEET METAL WORKS

FOREST FIBER PRODUCTS . . . . . FOREST GROVE, OREGON
U.S. GYPSUM COMPANY . . . . . PENDLETON, OREGON
WEYERHAEUSER TIMBER COMPANY . . KLAMATH FALLS, OREGON
CASCADES PLYWOOD CORPORATION . . . LEBANON, OREGON
BROWNSVILLE PARTICLE BOARD . . . BROWNSVILLE, OREGON

AMERICAN MEANS EFFICIENCY

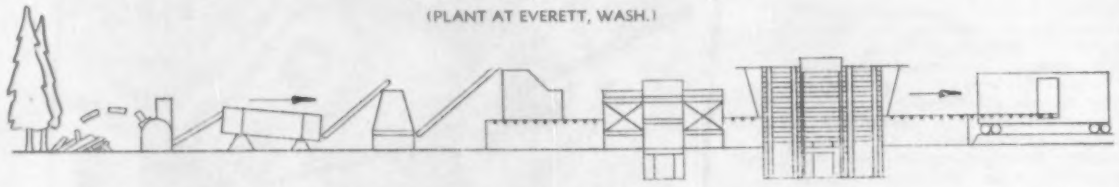
AMERICAN SHEET METAL WORKS, Inc.
Manufacturers of Blowers
920 NE Glisan Portland, Oregon BE 2-0111

COLUMBIA HARDBORD COMPANY

Mfrs. of CEDAWOOD (Flakeboard)

SEATTLE, WASHINGTON

(PLANT AT EVERETT, WASH.)



PLANT AND PROCESS BY INDUSTRIAL DEVELOPMENT CO. TACOMA, WASH.

Runckel, Mgr.; V. M. Herbst, Supt.; J. M. Tisdal, sls. mgr.; H. M. Ely, Tech. Dir.
Production: (Rated Annual Capacity) 65,000,000 sq. ft. ⅛ inch basis.
1957 Production: 45,000,000 sq. ft.
Rated Capacity: 75 tons Daily.
Date of Plant Startup: Jan. 1951.
Process: Wet, Continuous.
Panel Sizes: 4x16 feet.
Thicknesses: 1/12, 1/10, ⅛, 5/32, ¼ inches.
Spec. Gravity: .92—1.04
Colors: Light tan.
Percent into cut-up sizes: 5%.
Raw Material Used: Sawmill waste.
Volume (from mill residues): 144,000 tons.
Uses: Home construction, furniture, electronics, etc.
Specialty Items: Striating; Etching; Tempering; Prefinish.
Trade Names: Allwood, Prestpanel, Weavebord, Shobord, Stribord.
Sales Agents: Simpson Logging Co., W. H. Buckles.

SUPERWOOD CORP.

Home Address: Duluth, Minn.
Plant Address: Duluth, Minn.
Personnel: M. J. Opsahl, Pres.; G. A. Jondal, Vice-Pres. & Mgr.; M. J. Lake and L. Eggarstrand, Supts.; K. V. Hafner, Vice-Pres. & Sls. Mgr.; Geo. Fewson, Tech. Dir.; A. McLean, Plant Engr.
Rated Capacity: 200 tons Daily.
Process: Modified "Chapman" and Asplund.
Panel Sizes: 4x8 to 4x16 feet.
Thicknesses: 1/12, 1/10, ⅛, 5/32, ¼, 5/16 inches.
Raw Material Used: Aspen and Jack Pine.
Volume (from logs): 200 tons daily.
Uses: Building lines and industrial.
Specialty Items: Overlayment, tongue & groove, tempering, Prefinish.
Trade Names: Superwood.

TEMPRON CORP., THE

Home Address: P. O. Box 44, El Paso, Texas.
Personnel: Dr. J. F. T. Berliner, Pres.; H. K. Linzell, Mgr. & Supt.; J. G. Stemples, Vice-Pres. & Sls. Mgr.; Joseph B. Graves, Vice-Pres. & Treas.
Production: (Rated Annual Capacity) 100,000,000 sq. ft. ⅛ inch basis, hardboard and insulation board.
Rated Capacity: 100 tons Daily.
Date of Plant Startup: Fall of 1959 (Building to start in mid 1958).
Process: Wet forming, Dry-Pressing.
Panel Sizes: Various 4x8 to 4x16 feet.
Thicknesses: 1/10 to ⅝ inches.
Spec. Gravity: 1.0 to 1.1.
Raw Material Used: Creosote bush wood.
Uses: Industrial and building.
Trade Name: Tempron.
Percent of product for own use: none.

UNITED STATES GYPSUM CO.

Home Address: 300 West Adams St., Chicago 6, Ill.
Plant Address: Pilot Rock, Ore.
Personnel: S. E. Martin, Works Mgr.
Rated Capacity: 260,000 pounds every 24 hours.
Process: Dry.

WEYERHAEUSER TIMBER CO.

Home Address: Tacoma, Wash.
Plant Address: Klamath Falls, Ore.
Personnel: F. K. Weyerhaeuser, Pres.; R. D. Pauley, Mgr.; N. J. Briggs, Supt.; R. T. Miller, Sls. Mgr.
Production: (Rated Annual Capacity) 80,000,000 sq. ft. ⅛ inch basis.
Trade Names: Weyerhaeuser 4 square Hardboard.

WISCONSIN WOOD PRODUCTS INC.

Home Address: Phillips, Wis.
Personnel: Harry Gustafson, Pres.; E. A. Leonard, Sls. Mgr.
Production: (Rated Annual Capacity) 30,000,000 sq. ft. ⅛ inch basis.
Rated Capacity: 50 tons Daily.
Date of Plant Startup: Fall 1958.
Process: Dry.
Panel Sizes: 4x8 feet.

INSULATION BOARD

ABITIBI CORP.

Home Address: Penobscot Building, Detroit, Mich.
Plant Address: Alpena, Mich.
Personnel: D. W. Ambridge, Pres.; P. E. Roberts, Exec. Vice-Pres.; O. B. Eustis, Mill Mgr.; R. M. Granum, Plant Supt.; E. J. Schultz, Gen. Sls. Mgr.; P. A. Livingston, Plant Engr.
Process: Abitibi process—all 3 types of board.
Uses: Roof, Building Board, Sheathing, Shingle Backer, Ceiling Tile.

ALLIED CHEMICAL & DYE CORP.

Home Address: Barrett Division, 40 Rector St., New York 6, N. Y.
Plant Address: Dubuque, Iowa.
Personnel: T. J. Kinsella, Pres.; W. S. Benschneider, Supt.; Wm. Worsley, Sls. Mgr.; R. E. Oldendorph, Plant Engr.
Production: (Rated Annual Capacity) 75,000,000 sq. ft.
Rated Capacity: 90 tons Daily.
Process: Semi-Chemical.
Panel Sizes: 4x6 to 4x12 feet.
Thicknesses: ⅝ to ½ inches.
Colors: Plain and white.
Characteristics: Light in weight, insulation, noise-quieting, moisture-resistant, smooth texture, highly uniform.
Percent into cut-up sizes: 100%.
Raw Material Used: Cordwood and Flax Shives.
Volume (from logs): 13,000 tons.
Uses: As insulation and decorative interior paneling for ceilings and walls.
Specialty Items: Tongue and groove, prefinish.
Trade Names: Barrett Insulating Board Products.
Percent of product for own use: none.

ALLIED CHEMICAL & DYE CORP.

Home Address: Barrett Division, 40 Rector St., New York 6, N. Y.

KLAMATH MACHINE & LOCOMOTIVE WORKS INC.
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ENGINEERS • FOUNDERS • MACHINISTS
DESIGNERS and BUILDERS
HIGH GRADE SAWMILL MACHINERY

Plant Address: Sunbury, Pa.
Personnel: T. J. Kinsella, Pres.; J. F. Campbell, Supt.; Wm. Worsley, Sls. Mgr.; J. I. Geary, Plant Engr.
Process: Semi-Chemical.
Panel Sizes: Standard insulation board and interior board sizes.
Thicknesses: $\frac{1}{16}$ through 1 inch.
Spec. Gravity: 16 pounds per cu. ft.
Percent into cut-up sizes: 100%.
Raw Material Used: Wood.
Uses: Insulation and decorative interior.
Specialty Items: Overlayment, tongue and groove, prefinish.
Trade Name: Barrett.
Percent of product for own use: none.

ARMSTRONG CORK CO.

Home Address: Lancaster, Pa.
Plant Address: Macon, Ga.
Personnel: C. J. Backstrand, Pres.; E. A. Worm, Mgr.; F. F. Hoffeditz, Plant Engr.; J. O. Sampson, sls. mgr.; W. L. Scott, Tech. Dir.

ARMSTRONG CORK CO.

Home Address: Lancaster, Pa.
Plant Address: Pensacola, Fla.
Personnel: C. J. Backstrand, Pres.; E. N. Lee, Mgr.; R. C. Duell, Plant Engr.; J. O. Sampson, Sls. Mgr.; W. L. Scott, Tech. Dir.

CELOTEX CORP.

Home Address: 120 LaSalle St., Chicago, Ill.
Plant Address: L'Anse, Michigan.
Under construction.

FLINTKOTE CO., THE

Home Address: New York, N. Y.
Plant Address: Meridian, Miss.
Personnel: G. J. Pecaro, Pres.; H. L. Evans, V. P., Mfg.; G. Ball, Mgr.; H. H. Whittemore, Sls. Mgr.; R. H. Cubberley, Tech. Dir.; J. Evans, Plant Engr.
Production: (Rated Annual Capacity) 210,000,000 sq. ft. ½ inch basis.
1957 Production: 180,000,000 sq. ft.
Rated Capacity: 200 tons Daily.
Date of Plant Startup: 1941.
Process: Special Groundwood, Fourdrinier Machine.
Panel Sizes: numerous.
Thicknesses: ⅜, ½, 25/32, 1, 1½, 2, 3 inches.
Spec. Gravity: 12-20 lbs. cu. ft.
Colors: Natural, white special printed designs.
Raw Material Used: Pulpwood; chemicals.
Volume (from logs): 60,000 tons.
Uses: Insulation; acoustical; structural; decorative.
Specialty Items: Tongue and groove.
Trade Names: Shado-Wall sheathing; Sylvan and Thatched Tile.
Percent of product for own use: 15%.

FLINTKOTE CO., THE

Home Address: Pioneer Div., Los Angeles, Calif.
Plant Address: Hilo, Hawaii.
Personnel: G. S. Pecaro, Pres.; Wilson Harvey, Vice-Pres.; R. H. Kittrell, Mgr.; F. Haney, Tech. Dir.
Production: (Rated Annual Capacity) 115,000 sq. ft. ½ inch basis.
Rated Capacity: 110 tons Daily.
Process: Bagasse.
Panel Sizes: numerous.
Thicknesses: ¼ to 3 inches.
Spec. Gravity: 12-20 lbs. cu. ft.
Colors: natural, white, special.

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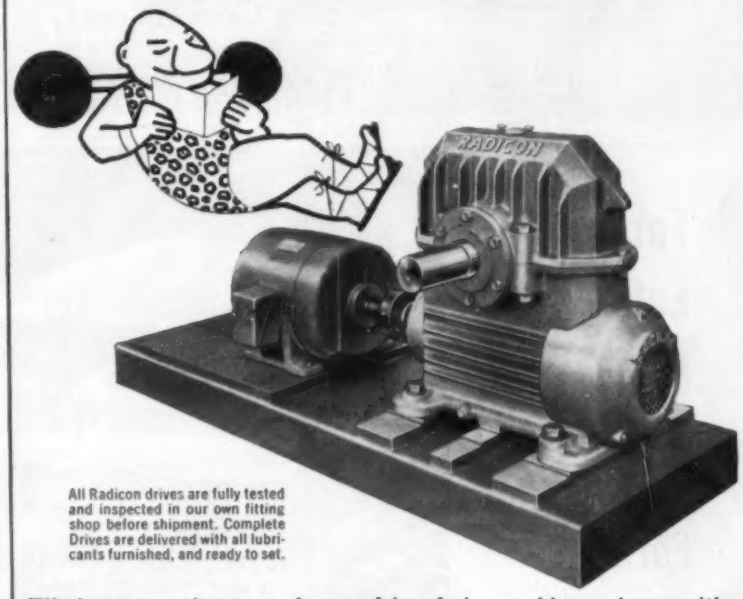
when you select—

RADICON
COMPLETE DRIVES



All Radicon drives are fully tested and inspected in our own fitting shop before shipment. Complete Drives are delivered with all lubricants furnished, and ready to set.

Eliminate a major part of your drive design problems—just position the efficient new Radicon Complete Drive, set six bolts, and you're ready to roll!

No need to buy reducers, motors, couplings—then spend time shimming and aligning. Radicon reducers and motors are already carefully shimmed and aligned on heavy fabricated steel base plates, of double box construction, firmly ribbed for rigidity. This means minimum stress at the flexible coupling...long service, low maintenance.

Fan-cooled Radicon Speed Reducers, like the type RHU shown with the above complete drive, are being specified by original equipment manufacturers in many industries these days. They have learned Radicon's ability to withstand extremes of temperature, dust, dirt and rain—all with low initial cost, and low maintenance! Find out for yourself—*write* or *phone today.*

Immediate delivery 3" to 14", all standard ratios from 5:1 to 60:1. Radicon complete drives supplied by all authorized David Brown factory branches and distributors.

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David Brown, Inc.
999 Beecher Street
San Leandro, California

Send me the facts—about Radicon Speed Reducers and Radicon Complete Drives that can be installed in minutes!

Name _____ Title _____
Company _____
Address _____
City _____ Zone ____ State _____

Raw Material Used: Bagasse.
Uses: Insulation, structural, acoustical, decorative.
Specialty Items: Tongue and groove.
Trade Names: Canec.

HOMASOTE CO.

Home Address: Trenton, N. J.
Personnel: B. Outerbridge, Pres.; T. A. Pierson, Jr., Production Vice-Pres.; F. Richards, Supt.; F. V. Wilson, Jr., Sales Vice-Pres.; A. N. Harvey, Sls. Mgr.; H. L. Becher, Tech. Dir.; J. D. Herron, Plant Engr.
Rated Capacity: 250 tons daily.
Date of Plant Startup: 1909.
Panel Sizes: 8x14, 4x4-6-8-10-12-14 feet.
Specialty Items: Straiting, overlayment, etching, tongue and groove.
Trade Names: Homasote.

JOHNS MANVILLE CORP.

Home Address: 22 East 40th St., New York 16, N. Y.
Plant Address: Jarret, Va.
Personnel: Harold R. Berlin, Vice-Pres.

JOHNS MANVILLE CORP.

Home Address: 22 East 40th St., New York 16, N. Y.
Plant Address: Natchez, Miss.
Personnel: Harold R. Berlin, Vice-Pres.

JOHNS MANVILLE CORP.

Home Address: 22 East 40th St., New York 16, N. Y.
Plant Address: Klamath Falls, Ore.
Personnel: Harold R. Berlin, Vice-Pres.

For Entire Plant

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For Gatehouse

Specify Low Cost, Easy-to-Buy, Easy-to-Build
ARMCO STEEL BUILDINGS

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KAISER GYPSUM CO.

Insulating Board Div.
Home Address: St. Helens, Ore.
Personnel: E. H. Schaper, Operations Mgr.

MacANDREWS AND FORBES CO.

Home Address: Camden, N. J.

MINNESOTA AND ONTARIO PAPER CO.

Insulite Div.
Home Address: International Falls, Minnesota.

NATIONAL GYPSUM CO.

Home Address: Buffalo, N. Y.
Plant Address: Mobile, Ala.
Personnel: F. A. Manske, Pres.; Geo. Cook, Plant Mgr.; W. Hardcastle, Plant Engr.
Production: (Rated Annual Capacity) 120,000,000 sq. ft. ½ inch basis.
Thicknesses: ⅜, ½, ¾ inches.
Volume (from mill residues): 600 tons; (from logs): 4800 tons.
Trade Name: Gold Bond.

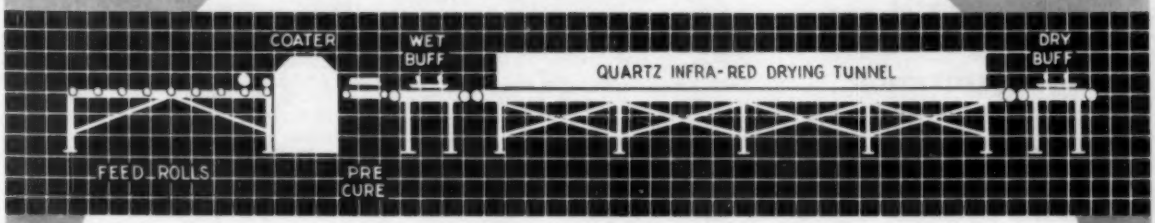
SIMPSON LOGGING CO.

Home Address: Shelton, Wash.
Personnel: T. F. Gleed, Pres.; G. L. Oswald, Mgr.; W. B. Johnson, Supt.; H. H. Warnaca, Sls. Mgr.; Paul D. Close, Tech. Dir.; O. J. Ashford, Plant Engr.
Production: (Rated Annual Capacity) 95,000,000 sq. ft. ½ inch basis.
1957 Production: 87,000,000 sq. ft.
Rated Capacity: 110 tons Daily.
Panel Sizes: 12x12 inches to 4x12 ft.
Thicknesses: ½, ⅝, ¾, 1 inch.
Spec. Gravity: 13 to 20 pounds.
Colors: Natural and white.
Characteristics: Insulating wall sheathing, roof slab, roof insulation, interior panels and decorative tile.
Percent into cut-up sizes: 40%.
Raw Material Used: Fir and hemlock chips.
Volume (from mill residues): 37,950 tons; (from logs) 37,950 tons.
Uses: Acoustical tile for residential, commercial and public building sound conditioning.
Specialty Items: Etching, tongue and groove, prefinish.
Trade Name: Simpson.
Percent of product for own use: none.
Sales Agents: Own.

SOUTHERN PINE LUMBER CO.

Templebord Division.
Home Address: Diboll, Texas.
Personnel: Arthur Temple, Jr., Pres.; D. L. Gleaves, Mgr.; H. M. Ivy, Supt.; Fred Dangeleisen, Tech. Dir.; Carroll Allen, Asst. Mgr. & Chief Engr.
Production: (Rated Annual Capacity) 100,000,000 sq. ft. ½ inch basis.
Rated Capacity: 135 tons Daily.
Date of Plant Startup: March 1958.
Process: Templebord.
Panel Sizes: 13x25 feet.
Thicknesses: ⅜ to 3 inches laminated.
Percent into cut-up sizes: 100%.
Raw Material Used: Pine and oak chips.
Volume (from mill residues): 47,000 tons.
Uses: Domestic, industrial and commercial, decorative, acoustical, insulating.
Specialty Items: Tongue and groove; decorative coatings.
Trade Name: Templebord.

Experience Counts!



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ANOTHER GRENCO FIRST... These new machines pre-seal and pre-coat hardboard . . . particle board . . . and plywood.

THE PROCESS...After film coating, surface is buffed while semi-dry. Complete drying is then accomplished in a Fuzed-quartz Infra-red Tunnel. Second buffing machine removes film haze and provides the burnishing action. An especially popular technique for hardboard pre-sealing or pre-finishing.

GRENCO INC....Adding new processing techniques to their recognized leadership in the manufacture and design of dry process hardboard machinery and associated re-manufacturing equipment. Grenco's proven experience in this field is your assurance of a profitable installation.

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2035 S. W. 58th Avenue
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Phones: CA 2-6049, CA 7-1370
Cable address: GRENCO

Percent of product for own use: 10%.
Sales Agents: Certainteed Products Corp.

UNITED STATES GYPSUM CO.

Home Address: 300 West Adams St., Chicago 6, Ill.
Plant Address: Pilot Rock, Ore.
Personnel: S. W. Martin, Works Mgr.
Rated Capacity: 260,000 pounds every 24 hours.
Process: Dry.

TEMPRON CORP., THE

Home Address: P. O. Box 44, El Paso, Texas.
Personnel: Dr. J. F. T. Berliner, Pres.; H. K. Linzell, Mgr. & Supt.; J. G. Stemples, Vice-Pres. & Sls. Mgr.; Joseph B. Graves, Vice-Pres. & Treas.
Production: (Rated Annual Capacity) 100,000,000 sq. ft. ⅛ inch basis hardboard and insulation board. Rated Capacity: 100 tons Daily.
Date of Plant Startup: Fall of 1959 (Building to start in mid 1958)
Process: Wet forming—Dry pressing.
Panel Sizes: Various 4x8 to 4x16 feet.
Thicknesses: 1/10 to ⅝ inches.
Raw Material Used: Creosote bushwood.
Uses: Industrial and building.
Trade Name: Tempron.
Percent of product for own use: none.

PARTICLE BOARD

AMERICAN FURNITURE CO., INC.

Home Address: Martinsville, Va.
Personnel: R. M. Simmons, Pres.; R. L. Whitener, Supt. & Mgr.; T. N. Barbour, Sls. Mgr.; Jimmy Minter, Tech. Dir. & Plant Engr.
Production: (Rated Annual Capacity) 5,000,000 sq. ft. ¾ inch basis.
1957 Production: 2,544,209 sq. ft.
Rated Capacity: 30 tons Daily.
Process: Lanewood Extruder.
Panel Sizes: various.
Spec. Gravity: .65.
Percent into cut-up sizes: 75%.
Volume (from mill residues) 100% tons.
Uses: Cores for veneered panels.
Percent of product for own use: 75%.

AMERICAN FURNITURE CO.

Home Address: North Wilkesboro, N. C.
Personnel: R. B. Johnston, Pres.; W. M. Coffey, Vice-Pres. & Mgr.
Production: (Rated Annual Capacity) 1,750,000 sq. ft.
1957 Production: 1,500,000 sq. ft.
Process: Lanewood—Extrusion.
Panel Sizes: 50 inches wide—12 to 72 inches.
Thicknesses: $1\frac{3}{16}$ and 1¼ inches.
Percent into cut-up sizes: 100%.
Raw Material Used: Block and strips.
Volume (from mill residues): 100% tons.
Uses: Mfg. furniture panels.
Percent of product for own use: 100%.

AMERICAN PARBOARD CORP.

Home Address: Black Mountain, N. C.
Personnel: H. R. Tipton, Pres.; D. B. Morgan, Jr., Vice-Pres.; A. Haigh, Tech. Dir.
Production: (Rated Annual Capacity) 10,000,000 sq. ft. ¾ inch basis.
1957 Production: 1,000,000 sq. ft.
Date of Plant Startup: Fall 1957.
Process: Miller-Hofft.

Panel Sizes: 5x8 feet.
Thicknesses: ⅜ to 1¼ inches.
Characteristics: High strength, uniformity, machinability, smooth surface.
Percent into cut-up sizes: 50%.
Raw Material Used: Appalachian pulpwood.
Uses: Furniture, building trade, underlay, plastic laminates.
Trade Names: Parflake and Tripleflake.

BERKLINE CORPORATION

Home Address: Morristown, Tenn.

BROWNSVILLE PARTICLE BOARD & ASSOCIATED PRODUCTS, INC.

Home Address: Brownsville, Ore.
Personnel: Joseph E. Clark, Pres. and Gen. Mgr.

CAROLINE FOREST PRODUCTS, INC.

Plant Address: P. O. Box 568, Wilmington, N. C.
Personnel: John Colucci, Jr., Pres.; Geo. Kidder, Mgr.; R. H. Sides, Supt.
Production: (Rated Annual Capacity) 12,000,000 sq. ft. ¾ inch basis, Flakeboard.
1957 Production: 5,000,000 sq. ft.
Rated Capacity: 40 tons Daily.
Date of Plant Startup: June 1957.
Process: Miller-Hofft.
Panel Sizes: 5x8 feet.
Thicknesses: ⅜, 1½ inches.
Spec. Gravity: .6.
Colors: Light gray.

Simpson selects LAUCKS Sentry

Continuous Moisture Detector for maximum quality control on insulating board production

Laucks Sentry Monitor with Brown Electronik Recorder

Automatically measuring and recording the moisture content of every board leaving the dryer, the recently installed SENTRY Monitor system at Simpson Logging Company's insulating board plant at Shelton, Washington, has demonstrated a positive control over critical moisture factors affecting dimensional stability, machinability and finished appearance of the board.

Increased operating efficiencies have been realized, time-lag has been eliminated and any trend toward out-of-control production is sensed long before stock is "out of spec" thus avoiding waste. Most important, *each board is scanned in its entirety,* resulting in improved quality control and better production.

Coupled with a continuous, strip chart recorder, Simpson's new SENTRY provides a large, easy-to-read profile of the output of each deck of the dryer. Any fire producing "hang-ups" or inefficiencies within the dryer are immediately detected on the chart.

As with other SENTRY installations in plywood, lumber and the various construction boards, Simpson's system has shown the way to an ultimate speed-up in drying time—and that's the kind of performance that pays off in dollars and cents for any operation.

SENTRY equipment ranges from single level marking units to multi-level marking, recording and counting systems. A qualified Laucks application engineeer will gladly inspect your operation and quote you on the **SENTRY** system designed to meet your specific moisture control problems.

LAUCKS LABORATORIES, INC.
1201 POPLAR PLACE • SEATTLE 44, WASH.
"Leaders in wood technology for 50 years"

Percent into cut-up sizes: 30%.
Raw Material Used: Southern hardwood (pulpwood).
Uses: Plastic underlay.
Trade Name: Flake-Bond.
Percent of product for own use: none.
Sales Agents: Carolina Pacific Sales.

CASCADES PLYWOOD CORP.

Home Address: 1316 Public Service Bldg., Portland, Ore.
Plant Address: Lebanon, Ore.
Personnel: C. W. Fox, Pres.; A. E. Anderson, Mgr.; P. L. Kvale, Supt.; Orvie M. Johnson, Sls. Mgr.; J. R. Stillinger, Tech. Dir.; E. Jolly, Plant Engr. Lebanite Div.
Production: (Rated Annual Capacity) 40,000,000 sq. ft. ⅛ inch basis.
1957 Production: 26,000,000 sq. ft.
Rated Capacity: 72 tons Daily.
Process: Cascades, dry fiberizing forming and pressing, particle type.
Panel Sizes: 4x8 feet (50x100 inches —RGH).
Thicknesses: 1/10, ⅛, 3/16, ¼, ⅜ inches.
Spec. Gravity: (3) ranges .98—1.18.
Colors: Light, blond.
Percent into cut-up sizes: 5%.
Raw Material Used: Douglas fir veneer chips.
Volume (from mill residues): 1900 tons.
Uses: Core stock for high pressure laminates and fine veneers. Base for print grain furniture finishes.
Specialty Items: Striating, overlayment on fir; (high-resin, high-density) perforated (round and square)
Trade Names: Lebanite, Lebanex, Perfo-Round, Perfo-Square.
Sales Agents: Cascades Plywood Corp.

CAVALIER CORP.

Home Address: 343 West First St., Chattanooga 2, Tenn.
Personnel: Joseph H. Lane, Pres.; Mark W. Moore, Mgr.; Shelby D. Weber, Supt.; T. Rudd Loder, Sales, Lignabond.
Production: (Rated Annual Capacity) 5,800,000 sq. ft. ⅛ inch basis.
1957 Production: 1,900,000 sq. ft. (⅞ inch basis).
Rated Capacity: 12 tons Daily.
Process: Multi-platen splinter chips.
Panel Sizes: 48x96 inches.
Thicknesses: ⅝ and ⅞ inches.
Colors: Varies with wood species used.
Characteristics: Grain nondirectional, Splinters parallel to surface.
Percent into cut-up sizes: 3%.
Raw Material Used: Cabinet hardwoods.
Volume (from mill residues): 4175 tons.
Uses: Furniture panel cores.
Trade Name: Lignabond.

CHAPWOOD OREGON, LTD.

Home Address: Philomath, Ore.
Personnel: Ralph Chapman, Pres.; B. N. Woods, Mgr.; Oliver Widness, Supt.
Production: (Rated Annual Capacity) 8,000,000 sq. ft. ⅝ inch basis.
Process: Chapwood-Chapman's.
Panel Sizes: 4x8 feet.
Thicknesses: ½ and ⅝ inches.
Uses: Sheathing underlayment.

CHIPBOARD PRODUCTS, INC.

Home Address: 123 N.E. McLearn Road, P. O. Box 7, Grants Pass, Ore.
Personnel: C. M. Starnes, Gen. Mgr.

CLEAR FIR PRODUCTS OF ORE. LTD.

Home Address: 1116 South "A," Springfield, Ore.
Personnel: W. H. Gonyea, Pres.; Jim Nell, Supt.; Frank S. Clarke, Sls. Mgr.; Paul Walsh, Tech. Dir.; George Moore, Plant Engr.
Production: (Rated Annual Capacity) 5,000,000 sq. ft. ¼ inch basis.
1957 Production: 3,000,000 sq. ft.
Panel Sizes: 48x96 inches.
Raw Material Used: Fir.
Uses: Underlayment and paneling.
Trade Names: Cleartex and Classic.

COLUMBIA HARDBORD CO.

Home Address: 560 Skinner Building, Seattle, Wash.
Plant Address: Everett, Wash.
Personnel: F. L. Johnson, Pres.; Dale L. Schubert, Mgr.; E. J. Mickler, Supt.; Don L. Johnson, Sls. Mgr.; Wyman Williams, Tech. Dir.
Production: (Rated Annual Capacity) 14,400,000 sq. ft. ¾ inch basis, Flakeboard.
1957 Production: 4,000,000 sq. ft.
Rated Capacity: 75 tons Daily.
Date of Plant Startup: April 1957.
Process: Flat Platen-Industrial Development Co.
Panel Sizes: 50x98, 25x96, 24x96, 48x96 inches.
Thicknesses: ¼ to ¾ inches.
Spec. Gravity: .56.
Colors: Brown.
Characteristics: Flat board—does not warp.
Raw Material Used: Cedar and Alder wood.
Uses: Cabinet, core, floors, etc.
Specialty Items: Overlayment.
Trade Names: Cedarwood—Triplex.
Percent of product for own use: 15%.
Sales Agents: Columbia Hardbord Sales Co., Seattle, Washington.

CURTIS COMPANIES, INC.

Home Address: Clinton, Iowa.

DIXIE CHIPBOARD CO.

Home Address: Chicago, Ill.
Plant Address: Rural Hall, N. C.
Personnel: T. J. Connelly, Pres.; J. Grady Goldston, Jr., Mgr.
Production: (Rated Annual Capacity) 5,000,000 sq. ft. ¾ inch basis.
Rated Capacity: 20 tons Daily.
Process: Kriebaum vertical extrusion.
Panel Sizes: cut to size.
Thicknesses: ½ to 2 inches.
Spec. Gravity: .7.
Percent into cut-up sizes: 90%.
Raw Material Used: slabs-waste.
Uses: Tubular board up to 2 inches for doors, partitions, etc.
Sales Agents: The Dean Co., Chicago, Ill.

FORMICA CORPORATION, Subsidiary of American Cyanamid Co.

Home Address: 4614 Spring Grove Ave., Cincinnati 32, Ohio.
Plant Address: Farmville, N. C.
Personnel: D. J. O'Conor, Jr., Pres.; T. J. Canning, Plant Mgr.; W. F. Drees, Sls. Mgr.; J. D. Cochrane, Jr., Tech Dir.
1957 Production: none.
Rated Capacity: 150 tons Daily (Flakeboard)
Date of Plant Startup: July 1, 1958.
Process: Multi-platen.
Panel Sizes: Up to 6x12 feet without gluing.
Thicknesses: ¼ to 1¼ inches.
Spec. Gravity: various.
Colors: Natural pine.
Raw Material Used: Pine.
Uses: Underlayment for Formica, furniture, construction.
Trade Name: Formica Flakeboard.
Percent of product for own use: none.

GRAY PRODUCTS CO., INC.

Home Address: Waverly, Va.
Personnel: Elmon T. Gray, Pres.; E. A. Jarrett, Mgr.; Joe W. Coufal, Sls. Mgr.; Wm. Newman, Tech. Dir.
Production: (Rated Annual Capacity) 25,000,000 sq. ft. ¾ inch basis, Flakeboard
Date of Plant Startup: Dec. 1957.
Process: Multi-Platen Miller Hofft.
Panel Sizes: 5x10 feet.
Thicknesses: ⅝ to 1⅜ inches.
Spec. Gravity: 0.64.
Color: Light.
Characteristics: Tight edge.
Raw Material Used: Pine.
Uses: Furniture cores, underlay for decorative laminating, residential construction field.
Trade Name: Graco Flakecore.
Percent of product for own use: none.

GULF NAVAL STORES CO.

Home Address: Gulfport, Miss.

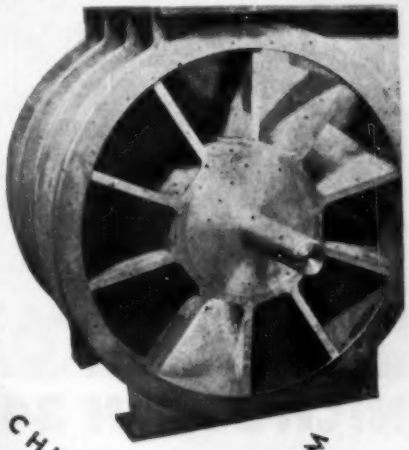
HART WOOD PRODUCTS, INC.

Home Address: Box 27, Hart, Mich.
Personnel: W. Lionel Tate, Pres. & Mgr. & Sls. Mgr.; Alden Wiedman, Supt. & Plant Engr.; Loren Farley, Sls. agent.
Production: (Rated Annual Capacity) 3,000,000 sq. ft. ¾ inch basis.
Date of Plant Startup: May 1, 1956.
Process: Chipcraft vertical extruder.
Thicknesses: ½, ⅝, ¾, 1, 1 1/16, 1⅛ inches.
Spec. Gravity: 4.
Color: Light.

COSTS LESS

TO INSTALL, TO OPERATE, TO MAINTAIN... if you're handling chips or other wood by-products you can't beat the CHIPVEYOR for low cost efficiency. No other system can match its flexibility, and its ability to deliver the chips at the lowest possible cost.

THE HEART OF THE CHIPVEYOR SYSTEM



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Conveyair

Conveyair Sales Ltd: 125 W. 1st St., North Vancouver, B.C. YU 8-1166
Conveyair Inc: 921 S.W. Washington Ave., Portland 5, Ore. CA 2-1291

Percent into cut-up sizes: 40%.
Raw Material Used: Green aspen, maple, birch, oak, cherry, beech.
Trade Name: Hart Board.
Percent of product for own use: 80%.

INTERNATIONAL PAPER CO., Long-Bell Division

Home Address: Longview, Wash.
Personnel: J. D. Leland, Vice-Pres.; H. G. Kelsey, Gen. Mgr. Western Operations; T. A. Deal, Gen. Mgr.; E. H. Houston, Gen. Sls. Mgr.; W. R. Kletsch, Supt.; F. L. Foval, Asst. to Gen. Sls. Mgr.; A. L. Mottet, Tech. Dir.
Production: (Rated Annual Capacity) 20,000,000 sq. ft. ¼ inch basis Flakeboard.
1957 Production: 2,500,000 sq. ft.
Rated Capacity: 50 tons Daily.
Date of Plant Startup: March 1951.
Process: Long-Bell crosscut flake process.
Panel Sizes: 48x96, 16x96, 16x16, 12x12 inches.
Thicknesses: ¼, ⅜, ½, ⅝, ¾, ⅞ inches.
Spec. Gravity: .90—1.0.
Colors: Natural wood colors.
Characteristics: Decorative qualities; high dimensional stability; good strength values.
Percent into cut-up sizes: 10%.
Raw Material Used: Planer ends.
Uses: Interior wall paneling; furniture and cabinet work.
Specialty Items: overlayment; tongue and groove; planks and parquet squares.
Trade Names: Flakewood; Ven-O-Wood.
Percent of product for own use: 25%.
Sales Agents: Sales offices in all major cities.

JASPER-AMERICAN MFG. CO.

Home Address: P. O. Box 187, Jasper, Ind.
Plant Address: Henderson, Ky.
Personnel: Arnold F. Habig, Pres.; Nestor H. Kuper, Mgr.
Production: (Rated Annual Capacity) 5,000,000 sq. ft. ¾ inch basis.
1957 Production: 3,000,000 sq. ft.
Rated Capacity: 20 tons Daily.
Process: Kreibaum vertical extrusion.
Panel Sizes: cut to size.
Thicknesses: $\frac{1}{16}$ to ¾ inch solid; 1⅛ to 2 inch tubular.
Spec. Gravity: .60.
Characteristics: Vertically oriented chips.
Percent into cut-up sizes: 100%.
Raw Material Used: Wood scrap.
Volume (from mill residues): 5000 tons.
Uses: Core material.
Trade Name: Stylemaster Chipcore.
Percent of product for own use: 60%.

LANE COMPANY, INC., THE

Home Address: Altavista, Va.
Personnel: H. O. Powell, Pres.; E. H. Lane, Jr., Mgr.; E. W. Davidson, Tech. Dir.; C. B. Sumpter, Plant Engr.
Production: (Rated Annual Capacity) 6,000,000 sq. ft. ¾ inch basis.
1957 Production: 3,000,000 sq. ft.
Rated Capacity: 27 tons Daily.
Process: Lane - Adamson extruder press.
Panel Sizes: 48 inches wide.
Thicknesses: $\frac{9}{16}$, $\frac{11}{16}$, $\frac{13}{16}$, 1, $1\frac{3}{16}$ inches.
Spec. Gravity: .65.
Colors: Natural wood species.
Characteristics: Extruded core.
Raw Material Used: Dry mill waste, splinters, mixture of species.
Volume (from mill residues): 5000 tons.
Uses: Core stock.
Trade Name: Lanewood.
Percent of product for own use: 100%.

LENOIR FURNITURE CORP.

Home Address: Factory St., Lenoir, N. C.
Personnel: R. T. Broyhill, Pres.

MAYO LUMBER CO., LTD.

Home Address: Paldi, B. C. (P. O. Duncan, B. C.)
Plant Address: Nanaimo, B. C.
Date of Plant Startup: Late 1958.
Process: Kreibaum/Extrusion.
Raw Material Used: Mill Waste.

MISSISSIPPI PRODUCTS, INC.

Home Address: Livingston Road, Jackson, Miss.
Personnel: G. A. Huth, Pres.; C. B. Ryan, Vice-Pres.; G. F. Bracken, Mgr.; J. C. Hamil, Supt.; W. M. Taylor, Sls. Mgr.; John Griffith, Tech. Dir.; G. H. Robinson, Plant Engr.; J. J. Waller, R. L. Brown, D. P. Hauman, Sls. agents.
Production: (Rated Annual Capacity) 2,117,000 sq. ft. ¾ inch basis.
1957 Production: 2,620,000 sq. ft.
Rated Capacity: 10 tons Daily.
Process: Own process multi-platen.
Panel Sizes: 94x42 inches.

NICHOLSON 34" DEBARKER

From NICHOLSON . . . the most advanced in a line of heavy duty ROTOBARKERS especially designed for rugged western operations. Barking logs from 4" to 34" diameters—minimum 5' lengths—at speeds up to 120' per minute, the ROTOBARKER offers quick, in-operation, barking pressure adjustments, thus assuring minimum fibre loss. Other ROTOBARKER sizes easily handle logs up to 72" in diameter.

Over 200 NICHOLSON barkers are now in use.

Investigate the new NICHOLSON Coon Hound barkers built for lower production operations.

This machine handled under one or more of the following patents: 2688349, 2802494, 2802495, 2802496.

For further information write to:

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In Canada: Nicholson-Murdie Machines, Ltd., Victoria, B. C.

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EASY INSTALLATION . . .
SECURE FASTENING . . .
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PORTLAND CHAIN MANUFACTURING CO.

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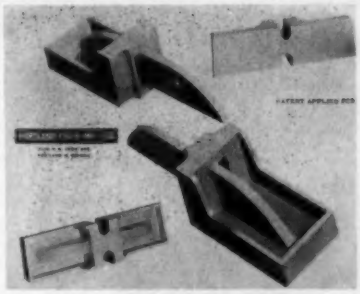

Thicknesses: ⅞ to 1⅛ inches.
Spec. Gravity: .65-.70.
Colors: Natural.
Percent into cut-up sizes: 100%.
Raw Material Used: Southern hardwood.
Volume (from mill residues): 3,144 tons.
Uses: Core stock.
Trade Name: Nu-Tex.
Percent of product for own use: 100%.

NATIONAL STARCH PRODUCTS, INC.

Structural Prod. Div.
Home Address: 270 Madison Ave., New York, N. Y.
Plant Address: Goffstown, N. H.
Personnel: (of Granite Board Div.) H. A. Hermsdorf, Pres.; A. G. Battaglia, Mgr.; P. Brusquini, Supt.
Production: (Rated Annual Capacity) 12,000,000 sq. ft. ¾ inch basis.
1957 Production: 8,000,000 sq. ft.
Process: Columbia Engineering flat platen process.
Panel Sizes: 4x8 feet.
Thicknesses: ⅜ to 1⅜ inches.
Spec. Gravity: .65.
Percent into cut-up sizes: 60%.
Raw Material Used: Eastern White Pine.
Uses: Core stock for plastic overlays; furniture core, underlayment.
Trade Name: Granite Board.

NEALL PRESSED PRODUCTS CO.

Home Address: 3rd and Cherry Sts., San Leandro, Calif.
Personnel: E. E. Esgate, Gen. Mgr.

OWOSSO MANUFACTURING CO.

Home Address: Benton, Ark.

PACIFIC PLYWOOD CO.,

Pacqua Division
Home Address: Box 78, Dillard, Ore.
Personnel: W. F. Forrest, Pres.; P. F. McKee, Gen. Mgr.; W. H. Cooke, Plant Mgr.; R. Frashour, Plant Supt.; J. J. Longfellow, Sls. Mgr.; L. Stedig, Plant Engr.
Production: (Rated Annual Capacity) 5,000,000 sq. ft. ⅜ inch basis.
1957 Production: 5,000,000 sq. ft.
Rated Capacity: 60 tons per shift Daily.
Date of Plant Startup: Sept. 1, 1957.
Panel Sizes: Max. 50x100 inches.
Thicknesses: Maximum, 1¼ inches.
Spec. Gravity: .65 to .80.
Characteristics: Uniform density; dimensionally stable.
Percent into cut-up sizes: 15%.
Raw Material Used: Douglas fir.
Volume (from mill residues): 10,000 tons per shift.
Uses: Exterior sheathing, underlayment, construction floor 7 tile; concrete forms, overlaying.
Specialty Items: Prefinish, embossed (3 patterns).
Trade Names: Par-Tex, Par-Wood, Par-Tile, Con-Form.
Percent of product for own use: none.
Sales Agents: Plywood Service, Inc.

PACK RIVER LUMBER CO.

Home Address: 205 Church Ave., Sandpoint, Idaho.
Plant Address: Dover, Idaho.
Personnel: Ted Wert, Gen. Mgr.

POINSETT LUMBER & MANUFACTURING CO.

Home Address: New York, N. Y.
Plant Address: Pickens, S. C.
Personnel: D. P. Kircher, Pres.; Willard Irwin, Mgr.; H. H. Connelly, Supt., & Sls. Mgr.; C. S. Richmond, Tech. Dir.; Walter Davis, Plant Engr.
Production: (Rated Annual Capacity) 2,000,000 sq. ft. ¾ inch basis.
1957 Production: 1,578,000 sq. ft.
Rated Capacity: 15 tons Daily.
Process: Miller-Hofft multi-platen, splinters.
Panel Sizes: 4x8 feet or cut to size.
Thicknesses: ⅝, ¾, ⅞ inches.
Spec. Gravity: .72.
Color: Natural.
Characteristics: High density and high strength properties.
Percent into cut-up sizes: 95%.
Raw Material Used: Factory waste.
Volume (from mill residues): 4,000 tons.
Uses: Core stock for furniture panels, underlayment for high pressure laminates.
Specialty Items: Tempering.
Percent of product for own use: 70%.

POPE & TALBOT, INC.

Home Address: 3070 N.W. Front, Portland, Ore.
Plant Address: Oakridge, Ore.
Personnel: H. L. Lueddeman, Pres.; J. Snyder, Mgr.; R. Reinecke, Supt.; K. Guenther, Sls. Mgr.; C. Rauch, Tech. Dir.
Production: (Rated Annual Capacity) 12,000,000 sq. ft. ¾ inch basis, particle and flakeboard.

HARDWOOD PLYWOOD USERS OF AMERICA

WHAT ARE YOUR NEEDS? DOORSKINS? OTHER PANELS?

AMERICAN HARDWOOD PLYWOOD PRODUCERS CAN SUPPLY YOUR REQUIREMENTS!

A prompt response to your needs will be sent to you by an American producer if you send details of your requirements to:

HARDWOOD PLYWOOD INSTITUTE
McLean, Virginia

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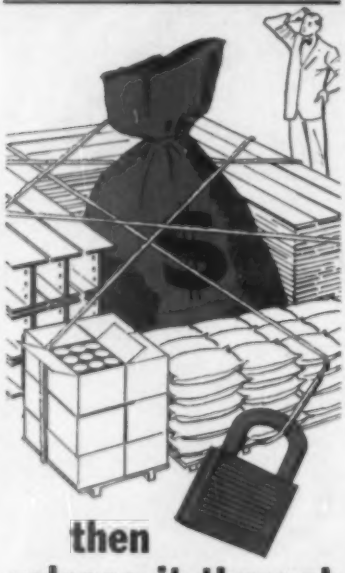

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OFFICES IN ALL PRINCIPAL CITIES

Rated Capacity: 70 tons Daily.
Process: Miller-Hofft.
Panel Sizes: 48x96 inches and cut to size.
Thicknesses: 3/8, 1/2, 5/8, 11/16, 3/4, 1 inch.
Spec. Gravity: 0.60 - 0.70.
Color: Natural wood.
Characteristics: Dimensional stability, quality surface, machineability, laminating.
Raw Material Used: Douglas fir, planer mill shavings and flakes.
Volume (from mill residues): 70 tons per day.
Uses: Building trades, industrial board.
Trade Names: Pope & Talbot Particle Board; Pope & Talbot Flakeboard.
Sales Agents: Pope & Talbot.

ROCK ISLAND MILLWORK CO.

Home Address: Rock Island, Ill.
Personnel: J. P. Weyerhaeuser III, Pres.; E. A. Gerber, Vice-Pres. & Gen. Mgr.; J. A. Daubert, Supt.; H. S. Kettrick, Sls. Mgr.; Dave Haile, Tech. Dir.
Production: (Rated Annual Capacity) 24,000,000 sq. ft. 1/8 inch basis.
1957 Production: 19,000,000 sq. ft.
Rated Capacity: 40 tons Daily.
Process: Own.
Panel Sizes: 49x97 inches.
Thicknesses: 3/16, 1/4, 5/16, 3/8, 1/2 inch.
Spec. Gravity: 1.0.
Color: Natural wood.
Characteristics: High bonding strength; uniform thickness, does not need edge banded.
Percent into cut-up sizes: 15%.
Raw Material Used: Pine and phenolic resin.
Volume (from mill residues): 7500 tons.
Uses: Core for one-shot plastic, laminating, work benches.
Trade Names: Resinwood; Resincore.
Percent of product for own use: 5%.

RODDISCRAFT, INC.

Timblend Division.
Home Address: P. O. Box 248, Arcata, Calif.
Personnel: Kirk Cooper, Gen. Mgr.; Bob Molloy, Plant Mgr.; Roy Hunt, Prod. Supt.; Dick Rinde, Sls. Mgr.; Bill Ferry, Quality Control Supt.; Will Antonson, Plant Engr.
Production: (Rated Annual Capacity) 15,000,000 sq. ft. 3/4 inch basis, shaving board.
1957 Production: 9,000,000 sq. ft.
Rated Capacity: 75 tons Daily.
Date of Plant Startup: April 1, 1957.
Process: Behr.
Panel Sizes: 4x16 feet.
Thicknesses: 3/8 through 1 1/2 inches.
Spec. Gravity: 0.63.
Color: Light tan.
Percent into cut-up sizes: 50%.
Raw Material Used: Wood waste.
Uses: High quality core.
Trade Name: Timblend.
Percent of product for own use: 20%.

SENCORE INDUSTRIES, INC.

Home Address: Box 208, Fernwood, Miss.
Personnel: Hugh R. Rogers, Pres.

SOUHEGAN WOOD PRODUCTS, INC.

Home Address: Wilton, N. H.
Personnel: C. Randolph Myer, Jr., Pres.; Leonard F. Mahoney, Jr., Mgr.

3 New Methods for:

1. VENEER SPLICING

Fischer Cross-Feed Veneer Splicer

2. VENEER EDGE BANDING

IMA Automatic Veneer Edge Bander

3. FINISHING

Steinemann Pressure Curtain Coater

These machines and their applications are new, but *proven* ways to increase profits by upgrading quality, increasing production while *reducing costs.* For the story on how to do this in *your* plant, contact—

wilco machine works, inc.
Municipal Airport • Memphis, Tenn. • WH 8-4555

SEE ARTICLES ON PAGE 83

Production: (Rated Annual Capacity) 3,500,000 sq. ft. ⅜ inch basis.
Process: Plaswood.
Panel Sizes: 2x8 feet.
Thicknesses: ½ to ⅞ inches.
Raw Material Used: Pine.
Uses: Underlayment and core.
Trade Name: Plaswood.

SOUTHERN BOX & LUMBER CO.

Home Address: Wilmington, N. C.

SOUTHERN PINE LUMBER CO.

Home Address: Diboll, Texas.

SUPERWOOD CORP.

Home Address: Duluth, Minn.
Plant Address: Duluth, Minn.
Personnel: M. J. Opsahl, Pres.; G. A. Jondal, Vice-Pres. & Mgr.; M. J. Lake and L. Eggarstrand, Supts.; K. V. Hafner, Vice-Pres. & Sls. Mgr.; Geo. Fewson, Tech. Dir.; A. McLean, Plant Engr.
Production: (Rated Annual Capacity) Est. 12,000,000 sq. ft. Flakeboard.
Date of Plant Startup: Scheduled for operation in late 1958.
Panel Sizes: 4x8 feet.
Thicknesses: ¼ to ¾ inches.
Trade Name: Superwood Multiply Building Board.

SOUTHERN PLASWOOD CORP.

Home Address: 1126 First National Bank Building, Jackson, Miss.
Plant Address: Hope, Ark.
Personnel: Wade W. Hollowell, Pres.; S. Don Camper, Exec. Vice-Pres. & Gen. Mgr.; E. J. Ogran, Supt.; B. Q. James, Sls. Mgr.; R. W. Emerson, Tech. Dir.
Production: (Rated Annual Capacity) 15,000,000 sq. ft. ¾ inch basis.
1957 Production: 12,000,000 sq. ft.
Process: Own.
Panel Sizes: 48¼x97$\frac{3}{16}$ inches.
Thicknesses: ½ to 1 inch.
Spec. Gravity: 44 pounds per cu. ft.
Color: Pure pine, nearly white.
Characteristics: Extremely stable.
Percent into cut-up sizes: 80%.
Raw Material Used: Kiln dried pine shavings.
Volume (from mill residues) 300,000 tons.
Uses: Core, plastic laminates and wood veneer.
Trade Names: Plaswood "Korstok," Plaswood Golden 44K, Plaswood Golden Dinette Grade.

SWAIN INDUSTRIES, INC.

Home Address: Seymour, Ind.
Personnel: F. W. Bottorff, Pres.; D. Billings Swain, Vice-Pres.; L. C. Moore, Sec.; L. J. Heyne, Tres.; Paul Aikman, Plant Supt.
Production: (Rated Annual Capacity) 7,000,000 sq. ft. ½ inch basis.
Rated Capacity: 36 tons Daily.
Process: Own.
Panel Sizes: 30x108 and 50x100 inches.
Thicknesses: ¼ to 1¼ inches.
Spec. Gravity: 0.55 - 0.76.
Colors: Multicolored by wood species.
Characteristics: Molded chairbacks, chairbacks and chair seats shaped to pattern.
Percent into cut-up sizes: 90%.
Raw Material Used: Mixed hardwood.
Volume (from mill residues): 16,000,000 tons.
Uses: Furniture core stock, chair backs and seats.
Specialty Items: 50x100 hardboard faced.
Trade Name: Trimwood.
Percent of product for own use: none.
Sales Agents: Stanley V. Taylor, Illinois Fibre & Specialty Co.

THOMASON PLYWOOD CORP.

Home Address: Fayetteville, N. C.
Personnel: B. H. Thomason, Pres.; J. A. Barnes, Mgr.
Production: (Rated Annual Capacity) 2,500,000 sq. ft. 1¼ inch basis.
1957 Production: 2,500,000 sq. ft.
Panel Sizes: 48 in. wide to 12 ft. long.
Thicknesses: 1⅛ to 1$\frac{3}{16}$ inches.
Raw Material Used: Veneer waste.

TRAFALGAR MILLS, LTD.

Home Address: Box 270, South Nelson, New Brunswick, Canada.
Personnel: J. J. Sutherland, Gen. Mgr.

U. S. KORBOARD

Home Address: 120 Wall St., New York, N. Y.
Plant Address: High Point, N. C.
Personnel: George J. Ledak, Mgr.; Fred Davies, Supt.; Henry Lynn, Sls. Mgr.; Sidney Horne, Tech. Dir.
Production: (Rated Annual Capacity) 15,000,000 sq. ft. ¾ inch basis.
1957 Production: 8,000,000 sq. ft.
Date of Plant Startup: 1957.
Process: Lanewood extrusion process.
Panel Sizes: 4x8 feet.
Thicknesses: ½ to 1½ inches.
Spec. Gravity: 40 lb.
Color: Neutral.
Characteristics: No telegraphing; edge glueability; good screw holding power.
Percent into cut-up sizes: 75%.
Raw Material Used: Pine-Cedar logs.

NEW 47" CHIPPER
for Slabs or Round Wood

Ideally suited to the production of good quality chips from sawmill slabs and other waste woods, the new Carthage 47" Chipper is of rugged, fundamentally sound design and provides low first cost as well as low maintenance cost.

Designed to take slabs up to 16" wide and pulpwood up to 7" diameter, the chipper will quickly pay for itself in the utilization of waste wood. The chips are uniform in size, with minimum sawdust. Chips can be discharged by blowing to either right or left, or they may be discharged underneath as required. Power requirements are unusually low.

Chipper with top of blowing hood removed, showing chip slots and blowing vanes.

Write for Bulletin 47

CARTHAGE MACHINE COMPANY
CARTHAGE, NEW YORK

Manufacturers of Log Barkers, Log Splitters, Log Chippers, Slab Barkers, Slab Chippers, Chip Screens

WADLEY, GA., Fulghum Industries, Ph. 168
WAYNESBORO, PA., Frick Company, Ph. 1245
WILMINGTON, N. C., Hyman Supply Co., Ph. 5293
PORTLAND, ORE., Ray Smythe Co., Ph. CApitol 3-2238
TORONTO, ONT., A. M. Kerr Equip. Co., Ph PLymouth 5-1134
ATLANTA, GA. Ed Crowley Ph. POplar 6-3209
BIRMINGHAM 1, ALA. M. A. Bell Box 490 Ph. LYric 2-1042
MONTREAL, QUE. R. K. Strapp 1645 Blvd. Ed. Laurin Ph. Riverside 7-5103

Uses: Core stock for furniture; wall panels; floor underlayment.
Trade Name: Korboard.
Percent of product for own use: none.
Sales Agents: Own.

UNITED STATES PLYWOOD CORP.

Home Address: New York, N. Y.
Plant Address: P. O. Box 1688, Redding, Calif.
Personnel: S. W. Antoville, Pres.; G. C. Brewer, Vice-Pres. in chg. of West Coast operations; K. L. Morrow, Mgr.; W. C. Smith, Prod. Mgr.; R. Bailey, Asst. Prod. Mgr.; Mel Fuller, Supt.; L. H. Boudreau, Sls. Mgr.; Bruce Jones, Tech. Dir.; Vern Daniels, Plant Engr.
Production: (Rated Annual Capacity) 270,000,000 sq. ft. ⅜ inch basis.
1957 Production: 144,369,000 sq. ft.
Process: Novoply, 3 ply (Core of particles, faces of specially prepared shavings).
Panel Sizes: 6x12 and 4x16 feet.
Thicknesses: ⅜, ½, ⅝, 11/16, 1, 1 1/16, 1¼, 1⅜, 1 13/16, 1½, 1⅝, 1¾, 2 inches.
Spec. Gravity: .62 to .71 (Lower densities in panels over 1¼ inches)
Color: Douglas fir color.
Characteristics: Mosaic surface appearance. Very flat warp free, high strength, water resistant. Ideal also as core stock without crossbanding. Many uses overlaid one side only.
Percent into cut-up sizes: 65%.
Raw Material Used: Douglas fir, white fir, ponderosa pine, southern pine. Chips for core, Douglas fir peeler cores for face.
Volume (from mill residues): 39,012 tons.
Uses: Building construction (interior), sliding doors, folding doors, wall paneling, single wall partitions, cabinets. Furniture, as core stock and natural.
Specialty Items: Overlayment, prefilling, cut to size, edgebanding and custom prefabrication.
Trade Name: Novoply.
Percent of product for own use: none.

UNITED STATES PLYWOOD CORP.

Home Address: New York City, N. Y.
Plant Address: P. O. Box 1688, Redding, Calif.
Production: (Rated Annual Capacity) 40,000,000 sq. ft. ⅛ inch basis.
Process: Surcore.
Panel Sizes: 6x12, 4x16 feet.
Thicknesses: ⅝ to 1¾ inches.
Spec. Gravity: .66.
Characteristics: Smoot surface, uniform thickness.
Raw Material Used: Douglas fir, white fir, ponderosa pine, southern pine chips.
Uses: Underlayment and furniture core stock.
Trade Name: Surcore.

UNITED WOOD CORP.

Home Address: 981 South 8th St., West Memphis, Ark.
Personnel: D. N. Copp, Pres.; Paul Kay, Gen. Mgr.; K. E. Scoggins, Prod. Mgr.; Paul Kay, Sls. Mgr.; A. H. Locher, Tech. Dir.
Production: (Rated Annual Capacity) 9,000,000 sq. ft. ¾ inch basis, flakeboard.
Date of Plant Startup: October 1957.
Process: Multi-platen continuous.
Panel Sizes: 56x196, 56x98 inches.
Thicknesses: 5/16, ⅝, 11/16, ¾ inches.
Spec. Gravity: .65.
Color: Light tan.
Percent into cut-up sizes: 60%.
Uses; Veneering, fancy faces, plastics.
Trade Name: United Wood.
Percent of product for own use: none.
Sales Agents: Frank A. Conkling Co.

VICO CORPORATION

Home Address: Eldred, Pa.

WABASH SCREEN DOOR CO.

Home Address: 310 S. Michigan, Chicago, Ill.
Plant Address: 2222 S. E. Elm St., Minneapolis, Minn.
Personnel: E. W. Donahue, Pres.; A. M. Struthers, Mgr.; R. Knutson, Supt.; W. M. Steinbauer, Sls. Mgr.; H. G. Freeman, Tech. Dir.; D. E. Westling, Plant Engr.
Production: (Rated Annual Capacity) 4,000,000 sq. ft. ¼ inch basis.
1957 Production: 1,500,000 sq. ft.
Rated Capacity: 11 tons Daily.
Process: Miller-Hofft.
Panel Sizes: 5½x6 feet.
Thicknesses: ¼ to ¾ inches.
Spec. Gravity: .70.
Characteristics: Good all-around with finer chips and less telegraphing.
Percent into cut-up sizes: 30%.
Raw Materials Used: Ponderosa pine chips and 65% solids, UF resin.
Volume (from mill residues): 2750 tons.
Uses: Furniture corestock, cupboard doors.
Trade Name: Wabash Wood Particle Board.
Percent of product for own use: 30%.

WESTERN PANEL, INC.

Home Address: 1400 18th, Sweet Home, Ore.

For Better Products, Choose

WILLIAMS-WHITE HOT PLATE PRESSES

After the principal specifications of a press have been determined, what other factors are considered before placing an order with the press builder? Production? Life of the machine? Maintenance costs? Press builder's experience? Initial cost?

Confidence in, and complete satisfaction with, WILLIAMS-WHITE hydraulic presses is displayed many times throughout the plywood, hardboard and allied industries by repeat orders. Over 200 installations of production and laboratory presses indicate a preference for the press built by WILLIAMS, WHITE & CO.

A typical example of repeat orders is the 20 opening, 572 ton, 106" x 54" hot plate press located in the Merlin, Oregon plant of Bate Lumber Company. It is one of two presses shipped to Bate in 1956.
Why not discuss your requirements with us before you buy?

BUILDERS OF MACHINERY SINCE 1854

WILLIAMS-WHITE & Co.
310 EIGHTH ST. • MOLINE, ILLINOIS
PRESSES • BULLDOZERS • BENDERS • PUNCHES • SHEARS

REPRESENTATIVES:
ALLIED NORTHWEST MACH. TOOL CORP., Portland, Ore.
GEORGE A. DAVIES, JR. MACH'Y. CO., Los Angeles, Calif.
PERINE MACHINERY AND SUPPLY CO., Seattle, Wash.

Personnel: W. Allen Wodtli, Pres. and Mgr.; Russell Rose, Supt.
Production: (Rated Annual Capacity) 8,000,000 sq. ft. ½ inch basis.
Rated Capacity: 25 tons Daily.
Process: Chapman or wood processes.
Panel Sizes: 4x8 feet.
Thicknesses: ¾ inches.
Percent into cut-up sizes: 10%.
Raw Material Used: Shavings.
Uses: Sheathing, underlayment, interior and cabinet work.
Trade Name: Linnwood.
Sales Agents: Evju Products, Calif.; Cascade Warehouse Co., Salem, Ore.

WEYERHAEUSER TIMBER CO.

Home Address: Tacoma, Wash.
Plant Address: North Bend, Ore.
Personnel: F. K. Weyerhaeuser, Pres.; R. D. Pauley, Mgr.; D. E. Isaacson, Supt.; R. T. Miller, Sls. Mgr.
Production: (Rated Annual Capacity) 12,000,000 sq. ft. ¾ inch basis.
Trade Name: Weyerhaeuser 4 Square Particle Board.

WILLAMETTE FIBRE AND CHIP BOARD INC.

Home Address: P. O. Box 516, Sweet Home, Ore.
Personnel: John Leith, Pres.; R. F. Hutchinson, Mgr.
Production: (Rated Annual Capacity) 25,000,000 sq. ft.
1957 Production: 18,000,000 sq. ft.
Rated Capacity: 32 tons Daily.
Process: Platen, hot press.
Panel Sizes: 4x8 feet.
Thicknesses: ⅛, ¼, ½, ¾ inches.
Raw Material Used: Planer shavings.
Trade Name: Westwood.

WOODCORE, INC.

Home Address: Box 45, Scottdale, Pa.
Personnel: Irving L. Halsted, Pres.; R. W. Westerman, Mgr.
Production: (Rated Annual Capacity) 3,000,000 sq. ft. ¾ inch basis.
Rated Capacity: 10 tons Daily.
Date of Plant Startup: About April 1958.
Process: Chipcraft.
Panel Sizes: 50 inches wide and up to 12 feet long.
Thicknesses: ⅜ to 1½ inches.
Raw Material Used: Oak.
Volume (from mill residues): 2500 tons.
Uses: Core stock.
Trade Name: Woodcore.
Percent of product for own use: none.

WYNNEWOOD PRODUCTS CO.

Home Address: Jacksonville, Texas.
Personnel: Angus G. Wynne, Pres.; K. N. Stordalen, Mgr.; Delbert Cummins, Supt.; R. R. Bridges, Tech. Dir.
Production: (Rated Annual Capacity) 10,000,000 sq. ft. ¾ inch basis.
Rated Capacity: 75 tons Daily.
Process: Platen.
Panel Sizes: 4x8 feet.
Thicknesses: ⅜ to 1¼ inches.
Spec. Gravity: 40, 50, 60 lbs./cu. ft.
Color: Light.
Percent into cut-up sizes: 50%.
Raw Material Used: Southern pine planer mill shavings.
Volume (from mill residues): 25,000 tons.
Uses: Furniture and building.
Trade Names: Corstoc, Arcatex and Wynnewood 601.
Percent of product for own use: none.

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PACKETIZING

cuts handling costs and provides an excellent tool for merchandising lumber

By

GEORGE C. FLANAGAN, Chairman
Subcommittee on Lumber Handling and Shipment
National Lumber Manufacturer's Association
and General Manager, Elk Lumber Co., Medford, Ore.

Packetizing eliminates shortages and claims for damage in transit, minimizes degrade, and improves the appearance of the lumber by presenting it in a trim, uniform, neatly-bound package. Last, but not least, we believe it will save loading, unloading and handling time and expense as well as simplifying counting, tallying, inventorying and invoicing all the way through the various stages of lumber distribution. And, finally, when the carpenter opens the packet at the job site he will find the lumber in the best possible condition.

THE FIRST CAR of McCracken Lumber Packets was shipped last December from Pack River Lumber Company at Sandpoint, Idaho, to Verona, Pennsylvania. It arrived in excellent condition and was unloaded in a little less than five hours. In March the second car of packets was shipped from the Elk Lumber Company at Medford and was unloaded as a demonstration before the joint committees at the Martin Wiegand, Inc., wholesale lumber yard in Washington, D.C., on April 1st.

On April 12th the third car of packets was loaded here at Elk in a new 50-foot Southern Pacific plug door type car. A "bug" was installed and the railroad was requested to bump the car "real hard," since we wanted to show that lumber loaded this way could not be harmed by rough handling. There was one 11-mile per hour impact and several of 7 to 8 miles without any damage to the lumber shipped, not one 2x4 was out of place when the car arrived at the Stahlman Lumber Company spur in Houston, Texas. This car was unloaded before about 400 Texas lumbermen on April 29th.

As a result of these tests we feel that the system has been sufficiently proven, and now we plan to packetize our entire production of dimension at the planer chain beginning June 2nd.

WHAT IS A McCRACKEN LUMBER PACKET? An "A" packet is a nominal 10"x24" package and a "B" packet is 12"x20" so every packet has 20 board feet of lumber per lineal foot of length. To obtain the footage in a packet, multiply the length by 2 and add a zero which gives 320 board feet for a 16' packet, and every packet of a given length contains the same footage.

Table I shows, for each size of boards and dimension lumber, the total number of pieces in a packet, the number of pieces high and wide and whether it makes up into an "A" packet (10"x24") or a "B" packet (12"x20"). The table also shows the number of board feet of lumber in each packet of a given length for lengths from 6' to 20'.

A stack of packets two wide and five high with stickers between the units makes a convenient carrier,

McCRACKEN packets being examined by, l to r: George C. Flanagan and sales managers R. C. Cook and M. H. Cotton of Elk. Top packet of 2x10 is "B" packet. The 2x4, 2x6, 2x8 and 2x12 are "A" packets. Each packet contains exactly 320 bf.

TABLE I

Packet	Size	Pieces	High	Wide	Board Footage in Packet — Length of Packet — 6'	8'	10'	12'	14'	16'	18'	20'
A	1"x2"	120	10	12	120'	160'	200'	240'	280'	320	360'	400'
A	1"x3"	80	10	8	"	"	"	"	"	"	"	"
A	1"x4"	60	10	6	"	"	"	"	"	"	"	"
A	1"x6"	40	10	4	"	"	"	"	"	"	"	"
A	1"x8"	30	10	3	"	"	"	"	"	"	"	"
B	1"x10"	24	12	2	"	"	"	"	"	"	"	"
A	1"x12"	20	10	2	"	"	"	"	"	"	"	"
A	2"x2"	60	5	12	"	"	"	"	"	"	"	"
A	2"x3"	40	5	8	"	"	"	"	"	"	"	"
A	2"x4"	30	5	6	"	"	"	"	"	"	"	"
A	2"x6"	20	5	4	"	"	"	"	"	"	"	"
A	2"x8"	15	5	3	"	"	"	"	"	"	"	"
B	2"x10"	12	6	2	"	"	"	"	"	"	"	"
A	2"x12"	10	5	2	"	"	"	"	"	"	"	"

LOADING a 2x8 packet of lumber by lift truck. Shipping superintendent Earl D. Bruning supervises placing of dowels by Doug Davis and Gene Snook. Note two rows or packets on edge in center of car filling space. No dunnage, blocking or bracing needed.

crane or lift truck unit for handling and storage, and every such unit of a given length would contain exactly ten times the footage per packet or 3,200′ for a unit of 16′ packets regardless of the dimensions of the pieces of lumber in the packets. This makes it easy to count or inventory.

McCracken Lumber Packets up to 20′ long can easily be loaded into or unloaded from an ordinary box car with a narrow doorway, although naturally it is much easier to load and unload through a wide double doorway. These packets are cargo loaded solid from end to end and side to side in the boxcar and while it is possible to work out a loading diagram to give the customer approximately the lengths he wants in a 40′ car, it is much easier to figure out in a 50′ car, and you can give him more nearly the lengths he wants.

Table II shows all the combinations of lengths which go together to make up one row of packets for a 40′ car, and also for a 50′ car. These are for 6′ to 20′ packets and all combinations containing more than one 6′ packet have been eliminated. As you can see, there are 37 ways that you can work out the lengths to make a 50′ row of packets, and only 23 combinations to make a 40′ row.

(Continued on page 104)

TABLE II

37 Combinations of Lengths While Will Go Together to Make Up One Row in a 50′ Boxcar:

Row Designation	Number of Packets of Each Length in 40′ Row							
	6′	8′	10′	12′	14′	16′	18′	20′
a					1	1		1
b				1			1	1
c			1					2
d		2			1			1
e	1			2				1
f	1		1		1			1
g	1	1				1		1
h		1	1	1				1
i	1	3						1
j						2	1	
k					1		2	
l		2				1	1	
m	1		1			1	1	
n	1	1					2	
o	1			1	1		1	
p			2	1			1	
q		1		2			1	
r		1	1		1		1	
s	1	2	1				1	
t			1	2		1		
u			2		1	1		
v		1		1	1	1		
w		1	1			2		
x	1			1		2		
y	1				2	1		
z	1	2		1		1		
aa	1	1	2			1		
bb			1	1	2			
cc		1			3			
dd				3	1			
ee	1	1	1	1	1			
ff	1	2			2			
gg	1		2	2				
hh	1	1		3				
ii	1	4		1				
jj	1	3	2					
kk		5	1					

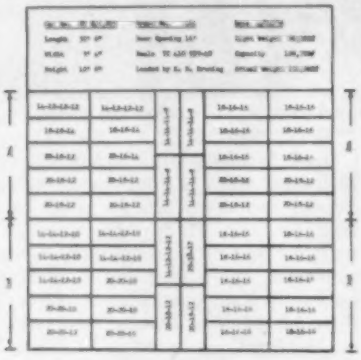
23 Combinations of Lengths Which Will Go Together to Make Up One Row in a 40′ Boxcar:

Row Designation	Number of Packets of Each Length in 40′ Row							
	6′	8′	10′	12′	14′	16′	18′	20′
a								2
b			2					1
c		1		1				1
d	1				1			1
e			1	1			1	
f		1			1		1	
g	1					1	1	
h	1	2					1	
i				2		1		
j			1		1	1		
k		1				2		
l		3				1		
m	1	1	1			1		
n				1	2			
o		2	1		1			
p	1		2		1			
q	1	1		1	1			
r		1	2	1				
s		2		2				
t	1		1	2				
u			4					
v		5						
w	1	3	1					

PACKETIZING *(Continued)*

A LOADING DIAGRAM must be worked out by the sales department or the customer when the order is taken so the loading crew merely has to load the packets in accordance with the loading diagram. Rows or layers are interchangeable but the combinations of lengths in the various rows must be rigidly adhered to or the loading crew will find themselves in trouble. It takes our salesmen about ten minutes to work up a good loading diagram for almost any carload order.

The loading diagram for the 50′ Southern Pacific cars shipped April 12th to Stahlman Lumber Company is shown in the sketch herewith. The sketch is a cross sectional diagram



of the car and each 50′ row of packets is indicated by a rectangular box. The numbers in each box indicate the lengths of packets in that particular 50′ row. As you will note, some of the packets have been tipped over on their sides in order to completely fill the space inside the car, thereby eliminating any bracing, blocking or bulkheading. If the car were wider or narrower more or less rows would be tipped over on edge in order to fill the whole width of the car with packets. A few inches of space left at either the side or the end of the car apparently causes no difficulty whatsoever.

It is interesting to note that a normal load of packetized lumber for a 40′ boxcar would be 38,400 feet and for a 50′ car would be 48,000 feet loaded as shown in the diagram. The top of the load is only 85″ above the floor so there is still over 3 feet of space above the load. The center of gravity is very low and the load is evenly distributed and cannot shift either lengthwise or sidewise as it is loaded "solid" both ways.

THE LOADING AND UNLOADING is no problem as the units can be handled readily with a 2-ton lift truck equipped with a side swing and a McCracken "modulift" boom, or without a boom if you have a double door car. The units are set into the car on ¾″x21″ dowels. One man can easily roll a unit lengthwise or slide a unit sideways on the wooden dowels without any effort at all. I rolled and slid the units around in the car myself just to see how easy it was to do. A larger unit would be too heavy. A little special pry bar aids the placing and adjustment of the dowels which are left in to facilitate unloading. Two men, one on each end, can easily turn the heaviest unit up on its edge by hand and thereafter the unit can be rolled and slid into place just as if it were flat.

A little quick figuring shows that kiln dried boards or dimension weighing as little as 1667 lbs. per M feet would make a minimum weight of 80,000 lbs. in a 50′ car and dry dimension, weighing as little as 2,084 lbs. per M feet would make a minimum weight of 100,000 lbs. in a 50′ car as the load shown in the diagram did, or 80,000 lbs. in a 40′ car.

Nothing in the world would promote "packetized" lumber shipment any faster or better than special freight rates for 80,000 lb. and 100,000 lb. minimum carloads and these could be shipped in the regular single or double door box cars already available. The special rates recently adopted for 60,000 lb. and 70,000 lb. minimum carloads are helpful, but don't go far enough. In normal times most customers prefer to order minimum carloads, but if there were a saving in freight they would order the larger carloads.

Since it costs almost as much to haul a 50,000 lb. carload across the country as it does to haul a 100,000 lb. car and since the 100,000 lb. car brings in twice the payload, it looks as if this would result in a great economic saving. Furthermore, you could transport about half again as much lumber in the same number of boxcars and there would be a great many less cars to load and unload, to handle, and to invoice.

The packets are bound with steel strapping or wire near each end, leaving the center portion clear to roll freely on the dowels. As the packets are small, no compression is required to obtain a tightly bound packet, the tension developed by the strapping or tieing tool is sufficient.

"Times have changed," says George Flanagan

"Most lumber is still handled a piece at a time, just the way it was forty years ago. We still pile the new lumber on top of the old, and the old gets older and dirtier and checks, and the grain raises, and it warps, and finally someone gets some they don't want and we have a claim, or else we sell it cheap to get rid of it.

"It costs us one to three dollars a thousand every time we handle it, and it's battered and shop-worn from handling by the time it gets to the carpenter. We load it loose and more or less haphazardly in a box car, and by the time it gets there the dealer has to use a hand saw to get it out and we cuss the railroads for 'humping' the cars.

"We complain to the railroads about the high cost of freight, yet we do nothing to increase the load per car, which would reduce both the number of cars required and the cost of hauling the lumber.

"A few years ago our customers, the retail dealers, got tired of waiting for us manufacturers to do something about it, and set up a committee to work on the problem. Eventually they pressured the manufacturers into setting up a similar committee with whom they could work. I was appointed chairman of this committee, possibly because I was not packaging, knew nothing about it, and at that time had no intention of ever doing anything of the kind. I could ably recite all the reasons why it couldn't be done, so I qualified.

"We met with the retail dealers in September, 1956, and out of nine on our committee only three of us showed up at all, but that was alright since we really didn't expect to accomplish anything anyhow. We were exposed to the enthusiasm of about 15 ardent retailers, who told about some things which had been accomplished, and some of their hopes. Then we went home to forget about it, having done our duty in meeting with them.

"But, fortunately, they wouldn't let us forget it. No, they insisted on another meeting and asked for a preliminary meeting of a small group to plan the program. We held the preliminary meeting in Chicago in April, 1957, and had the big joint meeting with the retailers at Washington in May. In the meantime, we had revamped our committee somewhat to include more manufacturers who were interested and knew something about the subject, and who would at least come to the meeting.

(Continued on page 106)

Tell your AIM*. . . Collins Pine Company does . . .

Log bundling expands storage pond capacity

COLLINS PINE COMPANY OF CALIFORNIA, at Chester, worked with their Acme Idea Man to develop a log bundling method which increased their storage pond capacity and reduced log handling costs. (Idea No. U6-26)

Logs are bundled with heavy-duty Acme Steel Strapping, allowing pond storage in depth which has nearly tripled pond capacity. Log handling costs have been slashed by 2/3 as bundling has eliminated handling single logs. Entire truck loads of logs are now bundled and handled as individual units. Log quality is kept high because pond storage has sharply reduced blue stain and end checking resulting from cold decking.

Acme Idea Man Art Hall helped Collins Pine develop its log handling system.

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ACME STEEL **STEEL STRAPPING**

PACKETIZING

(Continued from page 104)

"That May meeting was historic. The enthusiasm of that group of about twenty-five persons was catching, and we planned a test shipment program to try out any system of packaging that anyone could think up. No preconceived ideas, and no holds barred. Anyone could get into the act, the more the better.

"Well, by fall everyone was talking packaging and lots of people had tried it in an experimental sort of way. At the retail dealers' Materials Handling Clinic at Philadelphia in November there was a panel to discuss the results of the test shipment program with lots of keen interest on the part of the dealers.

"After the meeting three or four of us were invited to a small dinner party to hear a retailer from Leechburg, Pennsylvania (Mr. James W. McCracken), tell about some system of packaging which he had devised. I would much rather have gone to a show but it was my duty as Chairman to look into these things, so I went to dinner with Mr. McCracken.

"As the system of 'McCracken Lumber Packets' was explained, I gradually realized that this was exactly what we had been looking for, and I began to get excited. By the time McCracken got through, I had become the No. 1 McCracken fan, and a most enthusiastic proponent of his system for packaging and handling lumber."

●

Injury Total Cut 32%

A 32% reduction in industrial injuries was achieved in 1957 by the Montana lumber manufacturing industry, it was reported by R. F. Bush, Missoula, chairman of the Western Pine Association's district safety committee.

Reporting on first-year results here of an industry-wide, organized safety program covering lumber operations in the 12-state Western Pine Region, Bush said that injuries per million man-hours of employment dropped from 60.23 in 1956 to a rate of 41.20 in 1957. The 1957 figures, complete for the first 11 months, reflected the safety record in about 6,000,000 man-hours of employment.

Industrial accident prevention is mapped at meetings of mill executives and is carried forward systematically at each mill, he explained. A safety specialist, James R. Grady, of the Western Pine Association staff, helps the districts in their efforts.

●

New Canadian Lab

The new $960,000 building of the Vancouver Forest Products Laboratory in Vancouver, B.C., has been completed and it provides new, improved facilities for increased activity in the research fields of timber mechanics, fundamental physics and plywood.

The Vancouver laboratory is under the supervision of K. G. Fensom and is located on the campus of the University of British Columbia.

New Forest Products Laboratory headquarters in Ottawa, directed by Col. J. H. Jenkins and supervised by Dr. Harry Schwartz, have been established this spring, too, in a $2,225,000 building on the Montreal road.

●

Karstedt Moves

Paul H. Karstedt has resigned as administrative assistant in Simpson Timber Co.'s Oregon division to become controller of Potlatch Forests, Inc., Lewiston, Ida. Karstedt was an executive with the M and M Woodworking Co. before its acquisition by Simpson in 1956.

●

• Hugh Aho, Naselle, Wash., has started production at a cedar shake mill in Kalama. He operated a similar mill in Naselle.

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STOCKS	Paid 1957	This Month Bid	This Month Ask	Last Month Bid	Last Month Ask
Ambassador Oil Com.	$	3¾	4½	4	5
American Forest Products Com.	1.00 GS	19	21	20	22
Anderson Tully Co., Capital Stk.	40.00	250	OW	250	OW
Atlas Plywood Com.	.15	5⅜	C	5	C
Atlas Plywood $1.25 Pfd.	1.25	10	11	10	11
Biles-Coleman Lbr. Co. Com.	*	17	OW	17	OW
Boise Cascade Corp. Com.	.50	21½	23½	17¼	OW
Booth-Kelly Lumber Co. Com.	30.00	650	OW	650	OW
George E. Breece Lbr. Units	.05	2½	OW	2½	OW
British Columbia Forest Prod. Com.	.50	10⅞	C	10	C
Brooks-Scanlon, Inc. "A"	.95	23	OW	20	22
Brooks-Scanlon, Inc. "B"	.95	23	OW	23	25
Calaveras Land & Timber Co. Com.	2.00	19	21	18½	21
Calcasieu Paper Co. Com.	.50	25	OW	25	OW
Cascades Plywood Co. Com.	1.25	25	27	24½	26½
Central Coal & Coke Co. Com.	1.00	27½	29½	27½	29½
Cherry River Boom & Lbr. Com.	2.00	35	OW	25	OW
Chicago Mill & Lbr. Co. Com.	1.25	25	26½	23¼	24¼
Cloquet Lumber Co. Com.	*	1	OW	1	OW
Consol. Naval Stores Capital Stk.	22.00	580	OW	580	OW
Container Corp. Com.	1.00	21⅛	C	20⅛	C
Container Corp. 4% Pfd.	4.00	93	C	91	C
Crossett Company, Class "A"	.60	26½	28½	26	28
Crossett Company, Class "B"	.60	26	28	25½	27
Crown Zellerbach Com.	1.80	52⅝	C	47	C
Crown Zellerbach $4.20 Pfd.	4.20	96½	C	100	C
Curtis Companies Com.	.10	7	8	6¼	7¼
Dierks Forests, Inc.	5.00	110	OW	110	OW
Evans Products Com.	1.45	12⅝	C	11¼	C
Fordyce Lumber Co., Capital Stk.	1.25	35	OW	35	OW
General Plywood Com.	—	18	C	16½	C
Georgia-Pacific Co. Com.	1.00	38¼	OW	35¼	C
Harbor Plywood Com.	.45	17¼	C	15⅜	C
Edward Hines Lumber Co. Com.	2.50	35½	37	34	35½
Holmes Eureka Lumber Com.	.10	2½	3½	2½	3½
Insular Lumber Co. Com.	1.25	12½	14½	12	14
International Paper Com.	3.00 GS	99½	C	94¼	C
International Paper $4 Pfd.	4.00	94	C	93	C
Keyes Fibre Co. Com.	1.20	20½	22	20½	22
Kirby Lumber Corp. Com.	1.00	38	41	38½	41
Longview Fibre Co. Com.	2.80	63	OW	62	OW
Louisiana Central Oil & Gas Com.	12.00	50	OW	50	OW
Louisiana Long Leaf Lumber Co.	20.00	70	OW	70	OW
Louisiana Sawmill Co. Com.	.....	½	OW	½	OW
MacMillan & Bloedel, "B" Com.	1.00	29	C	26⅝	C
McCloud River Lumber Co. Com.	4.00	59	62½	58½	62
McCloud River Railroad, Com.	1.00	29	32	28	32
Meadow River Lumber Co. Com.	*	200	OW	200	OW
Medford Corp. Com.	7.00	160	OW	145	OW
Mississippi Land Co., Capital Stock	2.40	12	OW	12	OW
Northwest Paper Co. Com.	.80	26	28	26	28
O. & N. Lumber Co., Capital Stock	3.00	45	OW	45	OW
Olin Oil & Gas Com.	.....	16	17	13¼	14¼
Ozan Lumber Co. Com.	4.00	90	OW	90	OW
Pacific Lumber Co., Capital Stock	10.00	200	OW	200	OW
Pickering Lumber Co. Com.	.55	9½	10½	8½	9½
Pine Tree Manufacturing Co.	1.26	50	OW	50	OW
Pope & Talbot, Inc. Com.	1.25	22½	24	23¼	25
Pope & Talbot, Pfd.	.30	4⅝	5⅝	4½	5½
Potlatch Forests, Com.	1.00	42½	44½	42	44
Powell River Co. Ltd. Com.	1.50	31½	32½	30¼	31¼
Puget Sound Pulp & Tbr. Co. Com.	.80	14½	C	14½	C
Richmond Cedar Works Mfg. Com.	.....	½	1	½	1
Richmond Cedar Works Com.	.....	¾	1¼	1	2
Ritter, W. M., Lumber Co., Com.	2.00	40	45	40	45
Rock Island Millwork Co. Com.	*	25	OW	25	OW
Roddis Plywood Com.	.45 GS	8¼	9¼	7⅛	8⅞
St. Regis Paper Com.	1.55	33⅜	C	32½	C
Southern Minerals Corp. Com.	.....	4½	5¼	2½	3½
Southwest Lumber Mills, Com.	4% Stk.	6½	7½	6¾	7¾
Tremont Lumber Com.	2.00	65	OW	65	OW
U. S. Plywood Com.	2.00	29⅞	C	27	C
Union Lumber Co. Com.	1.25	39	42	37½	41
United States Lumber Com.	.35	3	4	3	4
Upson Company Com.	1.20	14½	16½	13	14
Weyerhaeuser Timber	1.00	39	40	35	36½
Winton Lumber Co. Com.	.92	15	OW	15	OW
Wood Conversion Co. Com.	.40	12	14	12	14
Wooduse, Inc. Com.	.....	⅜	⅝	⅜	⅝
BONDS					
Georgia-Pacific Corp. Subordinated Deb. 5s due 1976	.....	83	86	78	83

*Information not available
OW—Offerings Wanted
BW—Bids Wanted
C—Last sale on Exchange where listed or bid.
S—Stock

THE ABOVE INFORMATION, WHILE NOT GUARANTEED, IS OBTAINED FROM SOURCES WE BELIEVE TO BE RELIABLE

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Oliver

Wood Promotion Program OK'd At NLMA's 1958 Spring Meeting

THE INDUSTRY is together and the nationwide wood promotion program voted by member associations of NLMA will be carried out. NLMA chairman Walter Leuthold, Deer Park, Wash., announced this to the Board at the close of the final of several sessions held by the 35-man committee administering the program.

"The committee has reached agreement and the industry will go on from this point, completely behind the program," Mr. Leuthold told the group at Santa Barbara, Calif.

An organizational meeting of the 35-man committee, which is headed by A. B. Hood, Ralph L. Smith Lumber Co., Anderson, Calif., is scheduled in July at San Francisco. An initial allocation has been made by NLMA as the first step in getting the program on its way.

Announcement of agreement on the wood promotion program was the highlight of a program which also included a report by NLMA president N. Floyd McGowin, an address by H. B. McCoy, Administrator, Business and Defense Services Administration, Department of Commerce, Washington, D. C., a panel discussion of the industry's lumber distribution system, and a report by Wheeler McMillen, vice president, Farm Journal.

OPINIONS ABOUT NLMA are good Mr. McGowin, Chapman, Ala., reported, but certain areas of operation need polishing. The Alabama lumberman, along with NLMA executive vice president Mortimer Doyle, described replies to questions which NLMA personnel put to leaders around the nation. These included legislators, educators, business people, editors of shelter magazines and the press.

In a program of color slides and tape recorded answers, NLMA members at the meeting received first-hand comments from the interviewees.

Some of the findings resulting from this special appraisal of NLMA and the lumber industry were:

- Make NLMA news releases shorter. Editors' time and space are limited.
- Try to do more toward helping with scholarships those students who show promise of becoming leaders in the wood industry.
- Provide editors of shelter magazines with examples of good uses of wood and if the story can't be provided, then provide leads so the magazines can run them out.
- Know the legislators better. Work with them, tell them the wood story, provide information and statistics.

Findings from the interviews will have considerable bearing on NLMA's future course in public relations Mr. Doyle concluded.

PUBLIC RELATIONS for NLMA has a wide field PR committee chairman Latane Temple, Southern Pine Lumber Co., Diboll, Texas, told his group. Mr. Temple said that when a substitute comes to town too few lumberman say or do anything about it. He urged contacts with architects, builders and others.

LUMBER DISTRIBUTION pros and cons were related in a panel conducted by Kenneth Smith, now a consultant in San Francisco. Panel members were members of the lumber trade press and representatives of wholesale, retail and commission dealers and salesmen. Their major comments were:

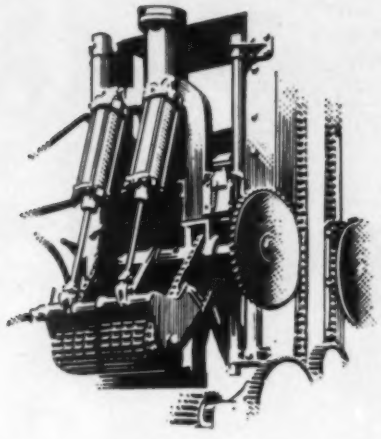
- We've been on the defensive too long.
- This is an era of new ideas and we need good salesmen.
- The greater the automation, the more important the contact at point of sale.
- The commission lumber salesman can adapt himself to changes.
- Present distribution system is adequate.
- Transit selling brings efficient, inexpensive shipments of certain products.
- A man will pay more to get what he needs if what he wants is not on hand.
- Business is good among retail dealers, recession over-exaggerated.
- Lumbermen have tried to push lumber in places where it shouldn't be used.
- Markets should be analyzed by areas in distribution.
- There is a right time of year to promote lumber.
- Distribution and marketing should not be confused.
- Component parts will have to be made at mills.
- Distributor must get same promotion push from lumber as from makers of substitutes.
- The wood promotion program will help, but the industry must hurry with it.
- Grade stamping will come when the consumer demands it.
- There is a great need for the manufacturer to learn what the end user wants.
- Carpenters unions should be talked to about promotion of wood.
- The easy thing is to go about business in the same old way.
- Sawmill men should know more about a car of lumber after it goes on its way.

NLMA chairman Walter Leuthold, right, scans the wood-bound story of his year as president of NLMA while Lawrence Kellogg, Alexandria, La., looks on. Mr. Kellogg presented the book and also a plaque.

NLMA president N. Floyd McGowin, left, with guest speaker H. B. McCoy, Washington, D. C. Mr. McCoy heads a group within the Department of Commerce which recommends Department action on legislation.

With NLMA's traveling exhibit on the modern wood school as a background, Wheeler McMillen, left, Farm Journal vice-president, and Latane Temple, Texas lumberman, discuss the farm market for wood products.

This is the answer to your small log and cant problems!



New split feed rolls now available for

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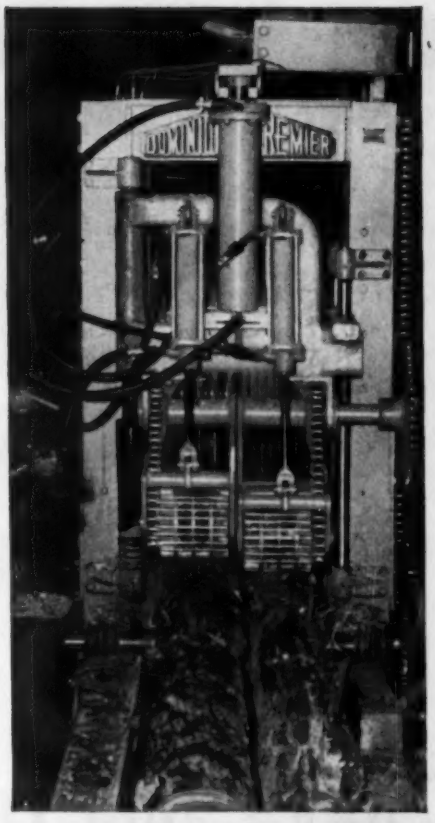

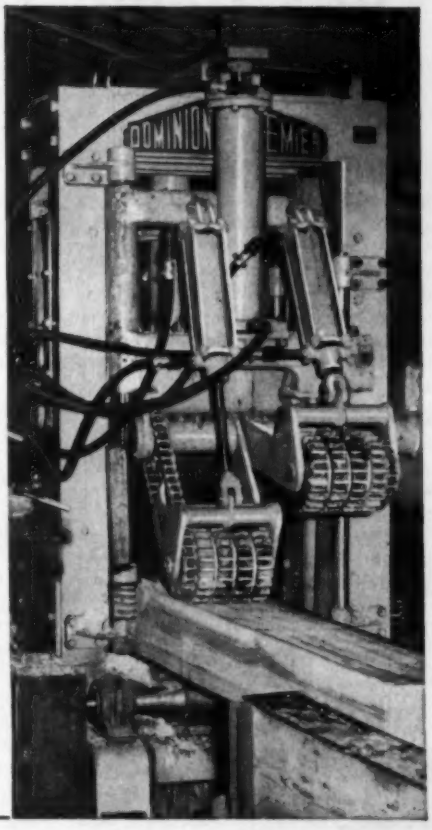

FEATURES

- Production increased up to 60% with logs of 12" diameter or less.
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OPENING OF SHOW *drew thousands who heard North Carolina's Governor Luther H. Hodges set an enthusiastic pace.*

They Came To Do Business and Did

at the woodworking machinery and equipment show at Winston-Salem

THERE WAS LITTLE fairground atmosphere, aside from the vast floor expanse accommodating 225 display booths under one roof. Visitors were purposeful and determined. They asked pointed questions. They had specific problems to be solved. And the machinery men did their best to offer concrete solutions to these problems.

Demonstrations of complete coverage of woodworking machinery under actual operating conditions drew the attention of the thousands who attended the American Woodworking Machinery and Equipment Show in Winston-Salem, N. C., May 13-17. But, they did not just come for the show—they came to do business.

GIVING THE CUSTOMERS what they want was the precise goal of all. Regardless of how the specific problems were stated, they invariably indicated a common underlying problem: how best to meet the precise demands of the customer. But, even with this common objective in mind, there was a definite indication of trends developing: More automation; more precise control of power, air, hydraulic, electric; new products—flakeboards, hardboards; and over all, the goal of high-speed accuracy with less manpower. The woodworking men are determined to have it, and the machinery men are determined to give it to them. That is why this meeting of the minds in an atmosphere where "show me" prevailed was so important and conducive to significant accomplishments.

INDICATIVE OF THE EMPHASIS of the manufacturers were the obvious notices of the displays, such as, "one man and this machine does the work of four"; "this equipment freed two men for other jobs in the plant"; "a single machine that does several jobs"; "reduce costs and increase output"; "eliminate costly, less positive means"; "reduce the cost of raw materials"; "modernize"; "improve."

This was not ballyhoo or idle boasting. The manufacturers of the equipment had the facts and figures to back up their statements—and they were convincing. Interest was intense, and a lot of business was done. A large number of the machines were sold before the first day was half over.

Perhaps this was in the mind of the federal authority who pinned the hopes of national recovery on the building industry—to act as a bellwether in leading the country out of the present economic recession. Certainly this is an important phase of the whole wood-using industry. And, if the contagion of enthusiasm that developed at Winston-Salem were to pervade the entire industry, there is no doubt that highly beneficial effects would be noticeable throughout the overall economy.

FULL IMPACT of the significance of the show will probably not be felt until the individuals who attended return to their own peculiar problems and begin to apply what they saw, learned, and acquired; experiencing results that had been carefully calculated for them by the experts.

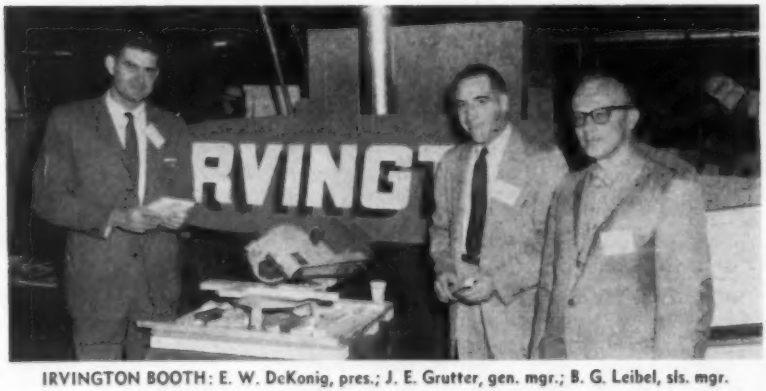
Over 10,000 People Visited the 5-Day Show

Some 120 exhibitors showed the finest woodworking equipment ever produced, combined with new production ideas and techniques that offered many new concepts of how to cut production costs while improving quality of product. Exhibitors assembled over $2 million worth of equipment.

Co-sponsored by the Southern Furniture Manufacturers Association and the Woodworking Machinery Manufacturers Association, this was the first such show of the industry since the one in 1954 at Grand Rapids. It was also the first time the exposition has been held in the South.

Some Of The Equipment Displayed At The Show

S. A. WOODS Machine Co. booth attracted hundreds to see new tapered spindle moulder.



IRVINGTON BOOTH: E. W. DeKonig, pres.; J. E. Grutter, gen. mgr.; B. G. Leibel, sls. mgr.

MEREEN-JOHNSON display of tenoners, ripsaws and cutoff saws.

MATTISON-GREENLEE booth: Left, Harold Evans, Douglas Fir Plywood Assoc.; and James Tallman, Tallman Mach., Seattle.

NEWMAN MACHINE booth with sales mgr. John Gillespie beside new flaker machine.

KOHLER-JOA booth: Conrad, vice-pres., James, pres., and Peter Kohler, secy., beside new Jenkins double-end tenoner.

[FOR MORE ON SHOW see page 112]

Woodworkers at the Machinery Show, *(Continued from page 111)*

STETSON-ROSS Machine Co., demonstrated their new end splicing machine.

MILL EQUIPMENT, Inc., with J. R. Wells, vp., and John Fox of Wilco Machine (R).

ENTERPRISE CO.: John Longabaugh (L), and W. K. Stamets Jr., pres.

G. M. DIEHL MACHINE moulder being examined by woodworking men.

R. HOE & CO. booth display of woodworking saws drew interested visitors.

SIMONDS SAW and Steel Co., display booth of saws and knives for woodworkers.

YATES-AMERICAN Machine Co., new 553 sander being inspected for new features.

Typical Of Some Of Those Displaying Equipment At The Woodworking Show Are These

BELLOWS CO., Akron, Ohio, displayed a complete line of air cylinders; controlled power for all woodworking equipment for better performance.

G. M. DIEHL MACHINE WORKS, Wabash, Ind., wide-arm ripsaw, splicer, molder, gang rip saws, veneer jointer, 2-saw edger.

ENTERPRISE CO., Columbiana, Ohio, Crescent wedge-bed planers, P-30 and P-36 to give fine finish where single surfacer needed.

FENTON MANUFACTURING CO., Tulsa, Okla., featured hydraulic direct motor drive defect cutoff saw and finger jointing equipment.

GREENLEE BROS. & CO., Rockford, Ill., dovetailer, cutoff saws, gang borer, double end tenoner, six roll planer.

R. HOE & CO., INC., High Point, N. C., new break-up unit and full line of saws, knives and Jones & Orth cutter heads.

IRVINGTON MACHINE WORKS, Portland, Ore., displayed new No. 191 controlled automatic cutoff saws and model swing cutoff saws.

KOHLER-JOA CORP., Sheboygan Falls, Wisc., double end tenoner, Uni-Lift, molding press, slat-bed machine.

MATTISON MACHINE WORKS, Rockford, Ill., automatic shaping lathe; electric moulder, straight-line ripper with lay-up gauge.

MEREEN-JOHNSON MACHINE CO., Minneapolis, Minn., double end tenoner, gang ripsaw, double cutoff saw.

MILL EQUIPMENT, INC., Seattle, Wash., Selectric remote controlled setworks for mills of all sizes.

NEWMAN MACHINE CO., INC., Greensboro, N. C., Single surfacer; planer, matcher, tenoner, automatic knife grinders.

THE OHIO KNIFE CO., Cincinnati, Ohio, offered their O-Kni-Co heavy duty veneer knives and chipper knives.

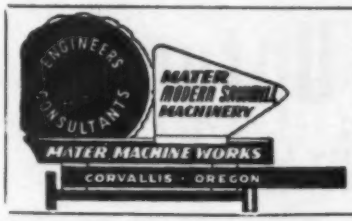
SIMONDS SAW & STEEL CO., Fitchburg, Mass., displays of various type of mill and woodworking saws.

SOLEM MACHINE CO., Rockford, Ill., 4-drum endless-bed drum sanders; Type PB planers.

STETSON-ROSS MACHINE CO., INC., Seattle, Wash., new end-splicing machine for random length and V-joints; glue applicator.

S. A. WOODS MACHINE CO., Boston, Mass., New 137-MT tapered spindle electric moulder.

YATES-AMERICAN MACHINE CO., Beloit, Wisc., Twinrip ripsaws and New J-114 14" band saw, new 12-inch shaper.



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MATER PACKAGED AUTOMATION SAWMILLS

Includes detailed tested mill layout and building plans, material lists, drives, complete Mater Automatic sawmill equipment. Pre-determined cost! Pre-determined production! Minimum labor! Maximum efficiency!

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Lumber Prices

Douglas Fir

1x8	Utility S4S KD	$ 52- 55.00
2x4	Construction Dimension S4S KD	79- 81.00
1x4	C&Btr VG Flooring KD	170-173.00
1x6	C&Btr Drop Siding KD	150-155.00
1x6	C&Btr S4S KD	170-175.00
1x8	C&Btr S4S KD	170-175.00
1x10	C&Btr S4S KD	170-175.00
1x12	C&Btr S4S KD	215-220.00

Construction Timbers and Plank

3x12	6-20′	$ 80- 83.00
3x12	22-24′	85- 88.00
3x12	26-32′	93- 98.00
4x4	8-20′	81- 84.00
4x4	22-24′	86- 89.00
4x4	26-32′	94- 99.00
6x6	8-20′	77- 80.00
6x6	22-30′	84- 87.00
6x6	32-40′	99-102.00
8x8	8-20′	76- 79.00
8x8	22-30′	81- 84.00
8x8	32-40′	96- 99.00
6x10, 8x10, 10x10, 12x12	8-20′	74- 77.00
6x10, 8x10, 10x10, 12x12	22-30′	79- 82.00
6x10, 8x10, 10x10, 12x12	32-40′	94- 97.00
Crossties		55- 58.00

Construction Dimension (Green)

2x4	6-24′	$ 65- 68.00
2x6	6-24′	67- 70.00
2x8	6-24′	66- 69.00
2x12	6-24′	66- 69.00

Standard & Btr. Boards (Green)

1x4	6-20′	$ 44- 47.00
1x8	6-20′	56- 59.00
1x12	6-20′	56- 59.00

Douglas Fir Plywood

¼-inch AD SOIS	$64.00

Western Pine

Ponderosa Pine

Selects S2 or 4S	4/4 RW	5/4 RW	6/4RW
C Select RL	$250.59	$259.68	$257.37
D Select RL	154.03	177.67	173.19

Shop S2S	No. 1	No. 2
5/4	$130.06	$ 96.33
6/4	127.64	95.79
Commons S2 or4S	**No. 2**	**No. 3**
1x8″ RL	$100.73	$ 68.62
1x12″ RL	116.34	73.74
4/4 No. 4 Common S2 or 4S		$ 49.52

Idaho White Pine

Selects S2 or 4S	4/4 RW	6/4 RW
Choice (C) RL	$267.91	$287.88
Quality (D) RL	170.66	255.42
Commons S2 or 4S	**Col. (1)**	**Ster. (2)**	**Std' (3)**
1x8″ RL		$143.13	$ 89.29
1x12″ RL		164.03	91.54
4/4 Utility (4) S2 or 4S RW&L			$ 56.00

Sugar Pine

Selects S2 or 4S	4/4 RW	5/4 RW	6/4RW
1 & 2 Clear RL	$276.81	$284.28	$278.76
C Select RL	267.12	276.33	270.21
D Select RL	184.89	196.34	186.68
Shop S2S	**No 1**	**No. 2**	**No. 3**
5/4	$134.71	$ 90.89	$ 66.41
6/4	133.56	99.76	65.06
8/4	153.83	106.25	64.30

Larch-Douglas Fir

4/4 No. 3 Common S2 or 4S		$ 63.59
2x4 No. 1 Dimension RW&L		74.52
2x4 No. 2&Btr. Dimension RW&L		65.02

Southern Pine Prices (KD Stock)

Vertical Grain Flooring

	BB	C	D
1x4	$195.00	$180.00	$153.00

Flat Grain Flooring

1x4	145.00	135.00	125.00
1x6	175.00	155.00	120.00

Drop Siding

1x6 No. 106	183.00	163.00	127.00
No. 116	183.00	163.00	127.00

Boards and Shiplap

	1x6	1x8	1x10	1x12
No. 1	120.00	122.00	127.00	172.00
No. 2	78.00	81.00	80.00	95.00
No. 3	65.00	73.00	69.00	72.00

No. 1 Dimension

	12	14	16	18	20
2x4	94.00	94.00	94.00	115.00	115.00
2x6	95.00	96.00	93.00	110.00	110.00
2x8	90.00	88.00	88.00	108.00	108.00
2x10	105.00	97.00	99.00	120.00	120.00
2x12	115.00	105.00	107.00	120.00	120.00

No. 2 Dimension

	12	14	16	18	20
2x4	87.00	87.00	87.00	103.00	103.00
2x6	87.00	87.00	85.00	98.00	98.00
2x8	85.00	85.00	83.00	97.00	97.00
2x10	86.00	89.00	87.00	100.00	100.00
2x12	89.00	89.00	88.00	105.00	110.00

●

California Veneer Plant Converted to Plywood

The former Pat Veneer Co. at Salyer, Calif., is now operating as a plywood plant following conversion by its new operator, Carolina-California Plywood, Inc. A production of 25 million square feet a year is anticipated. Carolina-California Plywood, Inc., operation is under the direction of B. D. Mitchell as general manager. He is also president and general manager of Carolina Pacific Plywood, Inc., Medford, Ore. Superintendent of the plant will be John LeFleur who also holds the same position with Carolina Pacific.

The newly organized firm also plans to start construction this summer on a stud mill at the same location. A daily capacity of 75,000 feet is anticipated.

Timber comes from cutting rights optioned from Pat Veneer.

50 *husky* HORSEPOWER!

For jobs that demand *real* power, *this* is the motor—Evinrude's great "Four-Fifty." New, compact V-4 design. 70.7 cu. in. displacement. Delivers 50 solid b.h.p. at 4000 r.p.m.—easily, quietly, smoothly—in toughest day-in, day-out service. See your Evinrude dealer—he's listed under "Outboard Motors" in the yellow pages. Evinrude Motors, 4316 N. 27th Street, Milwaukee 16, Wis. *A Division of Outboard Marine Corporation. In Canada: Mfd. by Evinrude Motors, Peterborough.*

EVINRUDE
outboard motors

Shippers Look for Fall Upturn

By ROBERT C. HILL

Conditions in the maritime world indicate no change of consequence in the last month as far as rates are concerned. Levels are about the same. Executives, as a rule, are preparing to make the best of the situation, at least during the summer. They look for no improvement until early fall when seasonal cargoes ordinarily move in heavier volume.

However, there is a sector of shipping which professes to believe the worst is over and the future may show an early upturn. This view is predicated not on a rise in rates or a heavier movement of cargo but rather on the overall picture. This shows a large laid-up fleet which temporarily has been removed from active competition. Consequently although cargo offering is not of large proportions, the amount of tonnage seeking business is smaller. This opinion is largely nebulous and is not shared by a majority of students of shipping.

It is generally agreed that the world's ocean carrying tonnage has been overbuilt in recent years. Not only the number of new ships but the increased size of many of them, largely in the tanker class, have increased the world's capacity beyond the immediate requirements of deep sea trade.

It is reported that some contracts for new vessels have been canceled and others renegotiated in line with lower costs generally. In any event, the world's commercial fleet has been expanded through over-optimism. This poses a problem for the owners of tonnage built 15 or 20 years ago in which category is the United States with a large number of carriers, now nearly obsolete, both government and privately-owned.

During the month additional withdrawal of freighters, both American and foreign-flag, has reduced the number available for charter. As a rule foreign operators are seeking to get their vessels into home ports where carrying charges are less. Few, if any, tramp operators can do better now than break even. Some American ships can possibly show a slight profit under the higher freights allowed for the movement of surplus and relief cargoes under the 50/50 law.

Time charters still reflect the depressed state of world shipping. Good size tramps are being taken at $42,000 to $45,000 a month, or on a deadweight tonnage basis from $1.75 to $3, according to length of charter, capacity, operating costs and other conditions.

Interesting figures are furnished by a water carrier which seeks permission to freight 49 million board feet of lumber from this coast to Florida. The estimates indicate gross revenue of $1,080,000 and net of $577,000 after deducting stevedoring. This works out at about $11.78 per thousand feet freight and $10.22 for stevedoring, emphasizing the high proportion of the total paid for waterfront labor.

Negotiations between Japan and Red China for an exchange of products, principally Japanese steel, are reported to have resulted in an embargo against Japanese products. This is of interest to all markets which in recent years have been supplying that country with raw materials, coal, ore and scrap principally. Japan steel makers are now trying to sell the 150,000 tons of steel originally intended for mainland China, in the South American area, some deals having been closed, it is reported, with Argentina and Brazil for rails and plates.

Perhaps the most momentous decision in recent years, affecting shipping, is that of the United States Supreme Court, declaring the dual rate system of the Japan-Atlantic and Gulf Freight Conferences is contrary to law. As a result much confusion will continue to plague steamship circles until the issue is clarified and its far reaching effects can be surveyed. Meanwhile the various conferences are awaiting further details before future action can be planned.

●

DIAMOND-GARDNER CORP. recently shipped its first carload of lumber from its new integrated forest products at Red Bluff, Calif. On hand, from left: Leo Bodine, vice-president timber and lumber operations; Jack Parrish, production manager, California division; C. E. Olsen, Diamond stockholders; Bert W. Martin, Diamond-Gardner director. The lumber went to Cessna Homes, Inc., Youngstown, Ohio.

New Lumber Group Set in Canada

Another lumbermen's organization has been established in British Columbia, primarily to promote the interests of operators in the central section of the province from Prince George south to Clinton and Williams Lake. It will be known as the Cariboo PGE Lumber Manufacturers Association, with head office in Vancouver.

This group which, as its name implies, will be concerned to some extent with transportation on the Pacific Great Eastern Railway and other lines, is under the wing of the Canadian Manufacturers Association, which was also instrumental some years ago in founding the Interior Lumber Manufacturers Association of B.C.

Temporary officers are L. J. Kerr, of Lignum, Ltd., and Cyril Spink, secretary-treasurer. Executive members are: W. F. T. Battle, Blackwater Timber Co.; E. A. McRae, Tatton Lumber Co.; C. Brouwer, Netherlands Overseas Mills; W. J. Mackin, Clinton Sawmills; D. W. Patchett, A. L. Patchett & Sons; R. P. Pruden, Beaver Planing Mills; K. W. Rymer, Western Plywood, Ltd.

Specific issues before the organization concern a plea for upward revision of the allowable annual cut in the Williams Lake public working circle and Lac la Hache sustained yield unit; establishment of equitable freight rates from lumber shipping points along the P.G.E. and implementation of the Sloan report's recommendations.

The association also proposes to establish a safety and grading program. It will work in close co-operation with boards of trade and other public bodies in the area.

●

Fenton Heads Sales

W. J. Fenton has been named Canadian lumber sales manager for Canadian Western division, Crown Zellerbach Canada, according to announcement by General Sales Manager R. C. McMillan. He will make his headquarters at Fraser Mills, B. C. He joined Canadian Western in 1942.

W. A. Costella, who joined Security Lumber Co. in Saskatchewan in 1938, has been appointed merchandising manager for that company and also Crown Lumber Co., both subsidiaries of Crown Zellerbach Canada, with headquarters in Moose Jaw.

PLYWOOD
INDUSTRY

Fabricating Plant

makes a variety of products. It stresses savings in freight, storage, production

BASIC PRODUCTION at Plywood Fabricators, Inc., Redwood Valley, Calif., includes Texture 1-11, T&G plywood, circles for cable reels, shook, fruit lugs, cleats for plywood roof diaphragms and cut-to-size items.

Most Texture 1-11 and T&G stock is handled on an in-transit basis. Trucks normally stand by while these items are being processed. A load of Texture 1-11 is processed in from five to six hours. Time is cut to about three hours for T&G stock.

The Kvalheim Machine Co. unit used to groove Texture 1-11 mounts up to nine saws. The unit is also used as an edger.

One or both of two recently acquired scissor lefts are used in conjunction with the Kval unit. For materials handling, the company uses a Clark and Towmotor fork lift.

SEVEN MEN, plus manager Edward Stolesen, operate the plant. All equipment is housed in the 65′x200′ steel and wood building. The building formerly was used to produce redwood garden and occasional furniture and Plywood Fabricators, Inc., did a small amount of this work when first organized. All production now is on Douglas fir plywood, hardboard and lumber.

PACKAGING AND PROTECTION of items shipped from the plant receive close attention. Mr. Stolesen believes good merchandising demands these. With the exception of Texture 1-11 plywood, all items are strapped.

"We believe our customers appreciate receiving a protected, neat package and we do all we can to prevent possible damage to the finished items," says Mr. Stolesen. Container board and paper are used on some items.

OTHER EQUIPMENT used in the plant includes three radial arms saws, a DeWalt 24″ and two Deltas, one 12″ and one 14″; a 2′ Delta band saw; a Yates American 20″ high speed drill press and a 52″ Prentice skinner saw. Plans are being made for addition of a 5-opening hot press. This will be used for production of stressed skin panels and for laminating hardboard on blockboard.

Production of stressed skin panels is planned, following an initial run on fabrication of a set of frames for such panels in the construction of a unique ski lodge.

Plywood Fabricator's, Inc., built the 2″x2″ frames for the 4x8 panels and fitted them with Fiberglass insulation.

Glue-nailed on figure-4 frames, the stressed skin panels formed roof and walls at once and similar panels were used for flooring. Based on the success of the lodge, engineered by Berkeley Plywood Co., Plywood Fabricators, Inc., is planning enlargement of production of this item.

In addition to the basic items turned out at the plant—and such special projects as the initial stressed skin panels—production includes chair seats, toy blanks, radio panels, shelving, basket tops and bottoms, pallets, utility tables, sign blanks, parts racks, boat floor boards and pulley stock.

MANAGER Edward Stolesen tallies packages of plywood cleats readied for shipment. These units are composed of eight packages each. Signode corners are used. Wide strapping is Signode ¾″ and narrow is Acme ⅜″. Fork lift handling is quick and easy.

UTILITY TABLE support sets being packaged. Completed packages stacked in background.

TEXTURE 1-11 plywood being run on Kval saw. Feed table is American Mfg. Co. scissor lift, which is also used in other places in the plant. Towmotor has 2-ton capacity.

"It is important that plywood manufacturers support strong industry trade promotion to create plywood demand" . . . A. W. Agnew, DFPA president, tells association members.

Plywood producers consider

One Glue Line

Other meeting highlights: "satellite" association proposed to promote plywood components; economist predicts 7% increase in the demand for plywood.

The fir plywood industry is considering a single exterior glue line and a "satellite" association to promote plywood components.

At the annual meeting of the Douglas Fir Plywood Association in Gearhart in mid-June, industry members were told results of studies on these two moves and heard an economic forecast that demand for fir plywood in the four quarters ending in mid-1958 would total about 5.9 billion square feet, up 7% from the year earlier level.

They were also told they are again experiencing a "profitless prosperity" . . . are converting irreplaceable timber resources into finished products at a loss.

ONE GLUE LINE surveys indicate it could become an actuality in two to three years. W. E. Difford, managing director, emphasizes that a decision in this direction should be "entirely voluntary" and that it should be unanimous.

The report shows that 94% of the mills have hot presses and that only 6% are entirely cold press operations. Only 2% of member mills are all cold press. Already 44% of the mills are entirely hot press operations and only 19 mills rely on cold presses alone.

The move poses these problems:

- Additional investment ranging from $50 to $160,000, depending on type of operation involved.
- Operating costs may increase from $3 to $4 a thousand.
- Not all uses require exterior glue lines, although manufacturers have no way of knowing the end use of his product.
- Mills will have to get an increase in sales realization ranging from $4 to $6 on a ⅜-inch basis.

But there are advantages:

- Eliminate problem of delamination which hold back plywood acceptance in many volume markets.
- Fire underwriters would give plywood a better rating, opening new markets.
- Simplify development of farm market which has potential as great as housing.
- Increase PlyScord sales.
- Building codes would give plywood better break.

COMPONENT PROMOTION, proposed, would involve an association to provide certification and inspection service for licensed or franchised plywood fabricators to promote sales of plywood for box beams, sandwich panels and industrial components such as pallets.

James F. Fowler, DFPA promotion director, says the immediate market for such items is 200 million feet which could be quickly expanded.

He said many firms in existence have expressed a "solid interest" in an association to provide inspection, engineering and sales helps for plywood components. He reports that virtually all of the 145 firms surveyed would pay for such a service and that $1000 and $5000 annually would not be too high. Fowler proposes employment of a managing director to make further contact with potential fabricators and to launch a market survey.

"If we don't provide the means for selling plywood in components," Fowler said, "other materials will dominate this great new market."

Reelected president A. W. Agnew of Pacific Coast Co., Sonoma, Calif., said the industry should support an aggressive trade promotion program as the best means of creating a strong demand for its product.

Concerning current business conditions in plywood, Agnew said: "We find ourselves in a deplorable state of affairs. In the main, we're converting irreplaceable timber resources into finished products at a loss . . ." The economics of various operations and various grades will vary, but again, in the main, we are experiencing a 'profitless prosperity'."

INCREASING SALES of plywood in face of a declining activity in its best markets were pointed out by Agnew. "During 1957 and thus far in 1958, our industry has enjoyed more demand for plywood than ever before in our history. We are almost the only major building material that has a stronger demand in 1958 than in any previous years."

He warned of threats to the industry sales position involved by the poor quality of some plywood. "This problem has taken all forms from the complete elimination of plywood from specifications and local building codes in specific areas, to continually poor tests and a seeming lack of desire to improve on the part of a few individual mills."

He also reviewed the differing character of various plywood operations, saying: "My point in bringing up these matters is simply this. With so many variables, all combined in the same industry, it is only natural that there will be many different points of view, and hence, many differences of opinion as how to best conduct the plywood business as a whole. This is only natural and right and proper, and, many times, who is to say who is right and who is wrong.

"I think there is one common denominator in this industry, and this is the fact that all segments manufacture plywood and want to market it as advantageously as possible. This strong common desire calls for a strong demand for our products and to this end I feel that all segments of the industry should be, regardless of all else, strongly behind the DFPA in order to keep this organization the most effective promotional agency in the entire building materials industry."

Peter W. Hoguet, president of Econometric Institute, said his prediction of a 7% increase in plywood demand reflects the strength in activity in the end-use markets likely during the period, combined with the continued development of new plywood uses and the further extension of established markets.

"An outstanding feature of the past 10 years has been the tremendous growth in plywood demand as compared with the growth of output in industries that consume plywood. This has been particularly impressive in view of the sizeable increases in output of the plywood-using industries.

"From the 1947-1949 period to 1955, activity in plywood markets rose about 47%. In that same period consumption of plywood rose 186%. Equally impressive is the fact that since 1955 plywood demand has continued to show strong gains while activity in industries using plywood has declined."

WHITE POCKET veneer can be used in volume of plywood manufacture without affecting performance quality, according to Dr. H. O. Fleischer, chief, division of timber processing, and Lyman W. Wood, engineer, both of the U. S. Forest Products Laboratory. Preliminary reports indicate the necessity for controls, but clearly show that the problem is easily solved.

The association decided it would conduct more studies before making any decision on publication of its Barometer which was postponed in May.

Other officers named at the session include C. H. Bacon, Jr., Simpson Logging Co., Shelton, Wash., vice-president; A. P. Stinchfield, Menasha Plywood Corp., North Bend, Ore., secretary; Arnold Koutonen, St. Paul & Tacoma Lumber Co., Olympia, Wash., treasurer.

●

• Multi-Use Panel Corp., Eugene, Ore., recently added a 4-line 8-section Moore veneer dryer.

Harbor Plywood Names Director of Sales

R. L. Stelzor, 13 years with Harbor Plywood Corp., and the last eight years district sales manager in the Jacksonville, Ga., area, has been named director of sales for the Aberdeen, Wash., firm.

In announcing the appointment, Martin Doggeller, president of Harbor, said, "it is the intention of the company to develop and expand its sales organization into a primary position in the field of plywood sales and distribution."

Harbor has extensive warehousing facilities covering all major marketing areas in the United States.

●

U.S. Ply Fills Post

William A. Bennett has been added to the staff of the Washington division of the United States Plywood Corp., according to O. H. Schrader, Jr., general manager of the Washington division. He will engage in various phases of production and engineering in connection with the Seattle plant. Bennett most recently was production manager of the plywood and door facilities of Northwest Door Co., Tacoma, Wash., and previously was assistant plant superintendent at Elliott Bay Mill Co., Seattle.

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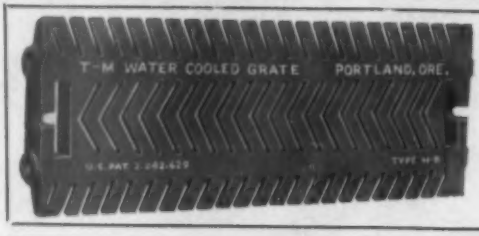

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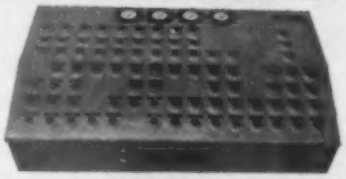

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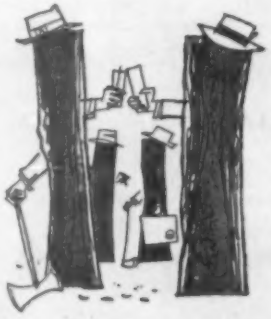

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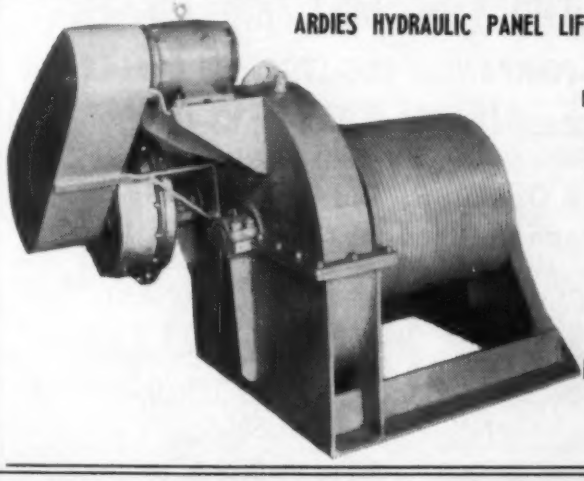

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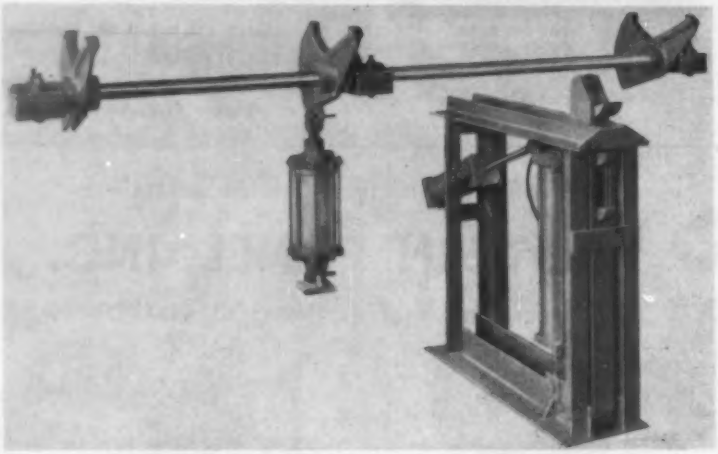

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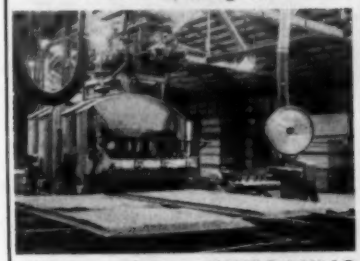

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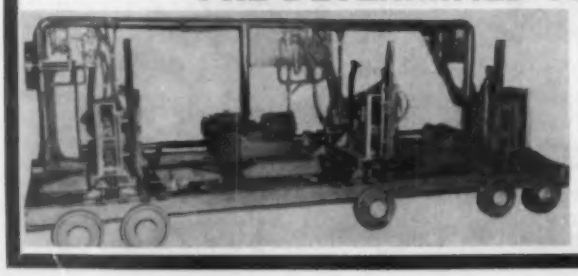
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1—Yates-American A66, 8-knife 15 x 6 planer & matcher with profiler & feed table.
1—S. A. Woods 404 DM 15 x 6 8-knife motorized planer & matcher with feed table.
1—Yates 91 8-knife planer, 6 x 15 with double profiler.
1—Yates-American C89A, 4 x 12" moulder, ball brg. jointers for top and bottom cylinders & side heads, motorized bottom head.
1—Stetson-Ross 610A1 ball bearing matcher with double profiler, belt drive, feed table and complete grinding equipment.
1—77A Model 5 American planer and matcher.
1—Yates A20 planer and matcher.
1—Newman 12" electric moulder, 4 heads.
1—Berlin No. 153 Box factory pony planer, 30".
1—American No. 5 10" Moulder in good used condition.
1—American No. 112 surfacer, 24", in good used condition.

CARRIERS & LIFT TRUCKS

1—Ross 19HT lift truck, 10' lift, 6000 lb. cap., recond.
1—Ross 15 LL Lift Truck.
1—Ross 70-6045 Carrier, recond.
1—Ross 90-6557 Carrier.
1—Ross 90-6544 Carrier, 9:00 x 20 tires, Herc. motor.
1—Hyster-Yardmaster, 6548, 8:25 x 20 tires.

MISCELLANEOUS

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1—Rebuilt No. 341 Yates 54" Band Resaw.
1—Mattison No. 231 motor driven pedestal knife grinder.
1—Mershon Twin Tandem Resaw, 36".
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9'x13" Fx2 3/8" thick, bottom
8'x10" Fx1 1/8" thick, top
8'x10" Fx2 1/8" thick, bottom
Steam feed 14"x18" geared, with drum
Steam feed 14"x18" direct, with drum
No. 3 Trout setworks
No. 4 Trout setworks

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No. 95 Covel circular saw grinder
No. 84 Blackmer saw gummer
72" capacity Covel hand gummer
No. 2 Hanchett circular sharpener
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Anvil 10"x12"x5" chilled
Anvil 14"x36"x5¼" chilled

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200 HP, 505 RPM, 2200 V. S.R.
200 HP, 1200 RPM, 440 V. Ind.
200 HP, 514 RPM, 2200 V. Ind.
200 HP, 900 RPM, 2200 V. Sync.
200 HP, 490 RPM, 2200 V. Ind.
75 HP, 900 RPM, 440 V. Ind.
75 HP, 720 RPM, 440 V. Ind.
75 HP, 514 RPM, 440 V. S.R.
1—S57 Western gear 20 H.P., 10:1 ratio.
1—15 H.P., 154 RPM Sterling gear head.

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No. 94 6x9 6-knife planer
No. 99A-5-36 knife grinder

MISCELLANEOUS

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100-lb. "Little Giant" power hammer
300-lbs. steam hammer
671 GMC Diesel, rebuilt, 200 HP
3 Sumner Standard shingle machines
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500' 10" C. I. universal pipe
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600' No. 74 trimmer chain
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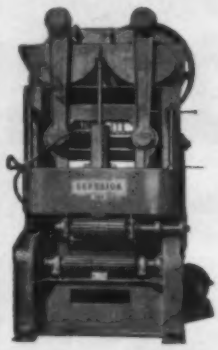
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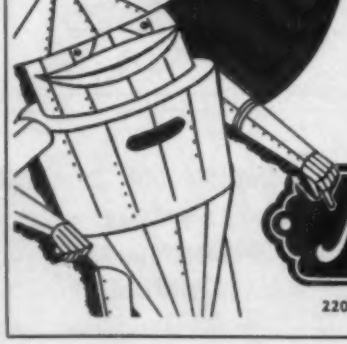
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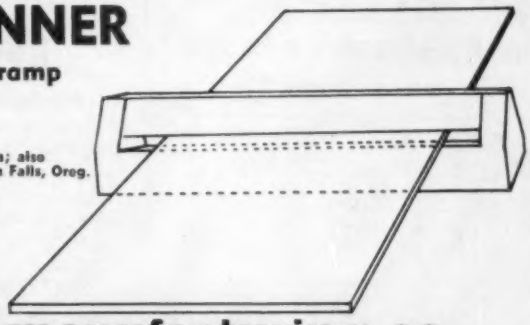

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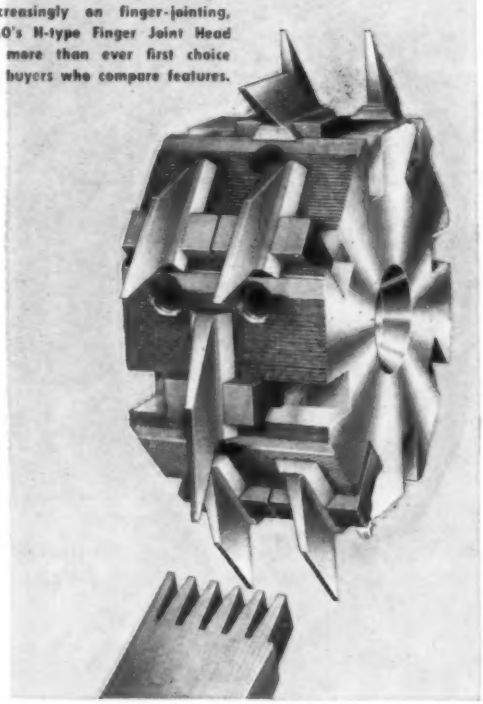

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